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Art. I.—THE SCIENCE OF HISTORY.

Introduction to the History of Philosophy, by VICTOR COUSIN, Professor of Philosophy of the Faculty of Literature of Paris. Translated from the French by HENRY GOTFRIED LINBERG. BOSTON: HILLIARD, GRAY, LITTELL & WILKINS. 1832.

PART III.

"The second epoch of the history of a people is the substitution of the heroic to the theological principle; then that which is considered as divine still continues to exist; but there also exists already something that is human; and the hero is, as in the Greek Mythology, so to speak, the intermedium between heaven and earth. Finally, in the third age, the man goes forth from the hero as the hero went forth from the God; and civil society arrives at an independent form. This done, the man is completely developed and begins to fall into decay; the people ends; a new people with the same nature recommences, and goes through the same career. The perpetual and necessary returns of these three degrees are what Vico has consecrated under the remarkable denomination of the recurrences of history. (*Ricorsi*) Thus one nature is common to all nations; and the same nature, being subject to the same laws, causes the same phenomena to occur in the same order." Both these systems are hostile to a law of progress in the human race. With Bossuet, the Church, or Christianity, as expounded and settled by a Council of Bishops, is the consummation of all things; hence the assumption of the Church's infallibility. As if on purpose to contradict this arrogant theory, almost at the same moment that Bossuet was composing this system, the religious reformers were decomposing and scattering abroad the elements he had collected together into a systematic plan, to exist through all future ages as a perpetual monument of the grandeur, the supremacy, and the infallibility of the order he represented, and which has absorbed and smothered within its bosom all the other elements of civil society. This "Reformation" was nothing more than a "declaration of rights" on the part of humanity—it was one of those visible and apparently sudden strides which humanity now and then makes in a forward direct-

ion; a stride which cannot be taken by a power so huge without shaking a little the earth and agitating the sluggish waters that lie slumbering upon its surface, and which in fact require an awaking up occasionally to prevent stagnation. It was one of those ventriloqual-like sounds which ever and anon proceed from the mysterious "power behind the throne, which is greater than the throne," and which, while all men hear, are in doubt whence it comes, whether from heaven or from tophet; but indeed it is a voice by no means equivocal, although often counterfeited; and when it does speak it utters no Delphic Oracles of double meaning, or issues commands which the power whence they proceed, is impotent to enforce. On this occasion it was the true voice of humanity, which is beyond the Church, above the Church, superior to the Church and to all other human institutions. So long as the Church subserved the interests of humanity, it was tolerated, encouraged, employed—it was crowned "lord of all;" but when, in the pride of power not its own, but which it impiously mistook for its own, it undertook to chain humanity to its ear, it was itself emasculated, dethroned, and assigned a subordinate place in the councils of humanity. Humanity is doubtless dependent upon institutions; it progresses by means of institutions; they are the agents it employs to effect its progress; but institutions are temporary, while humanity is more enduring and outgrows institutions as a child outgrows its baby-clothes; for humanity cannot remain stationary any more than the religion of an epoch can be progressive; for a religion can advance only on condition of metamorphosing and destroying itself, and that is what constitutes a new epoch; christianity, for example, is founded upon the ruins of the old religions of the world, and has given its name to the present era. Those ancient religions were the necessary antecedants of christianity; they prepared the way for the new religion; and it is upon their ruins as a basis, a solid substratum, that christianity rests; but whether christianity is destined to be the last and final expression of the religious element of humanity, is a problem which depends upon the future for its solution, and with which we will not presume to meddle. So much for Bossuet's system in so far as it is opposed to a principle of progress inherent in humanity. If Bossuet has failed to reproduce in his universal history the principle in the constitution of humanity which is continually impelling it onward with a steady progress, beyond the range of institutions and in despite of them, Vico has no less done the same thing. His system being founded upon what he calls the "common nature of nations," assigns to each and every nation precisely the same natural laws, the same phenomena, the same order in their occurrence and recurrence, and the same destiny. According to this doctrine, all nations are nothing more than duplicates of each other; and humanity is busied only in repeating itself continually in the life of every nation that inhabits the earth. If this were true, then humanity would be all represented in one nation; there would be no use for any but one nation; it would be all humanity perfected in one nation; the production of a single nation would be the beginning and consummation of the scheme of human existence; the reproduction of subsequent ages would be nothing but humanity revolving continually upon itself; humanity having been

fully developed and perfected in the life of a single nation, there could be no progress beyond the highest point reached therein. At this rate, men would soon learn by heart all that is contained in the life of the race; they would weary of witnessing the repetition of the same piece over and over again; there would be no stimulus, no inducement to action, for a nation would know beforehand, from what had preceded, all it had to expect in the future; life itself would be a farce, and death a useless phenomena. In condemning all nations to plod monotonously around his prescribed circle, Vico was unmindful that there is a *history of humanity* which is above nations, which includes nations, which survives them, and is benefitted and promoted by their ruin. "The miracle in the constitution of humanity is, that in each of its revolutions it finds in the corruption and decay of its former condition the elements of that renovation which will preserve it." Society is the true phœnix which springs regenerated from the ashes of its parent. Death is indeed the parent of life, vigor, and growth. The death of the individual is the catholicon of the nation; the destruction of the nation is the growth of humanity. Both these phenomena, that is, the mortality of man and the destruction of nations, are necessary for the progress of humanity as manifested on earth. In the series of events, expressing the evolution of humanity, there have been no experiments, or failures—all have been developments, results, fruits. Every movement of mankind has been in a forward direction—essentially and necessarily progressive—never backward—for there is no retrograde motion in history. Nothing that has ever been evolved by the action of humanity, in all time and space, and that is necessary to the ultimate growth and complete development of the race, has ever been lost, but all have been preserved and continued in never-ceasing action, connecting in one unbroken chain the past, the present, and the future. There have been retrogressions and declensions in individual nations, just as there is decay and death among individual men or individual any thing else; the race, however, survives the individual and is advanced by his death. Neither men nor nations can take with them to the grave that which they produced while on the earth. Every man and every nation has a mission to perform. With the performance of that mission ceases the further necessity for their present existence. They and their generation go hence, and are succeeded by others who begin where they left off. Thus each generation is a term in an infinite series, in which the preceding term is necessarily contained, *plus*, a certain increment consisting of the impetus imparted to it by the generation that has just left the stage. Eras in the world's history are important only for the ideas or principles that have been elaborated therein, and which are brought forth or translated into results. These results become so many factors; each preceding factor being retained in the general sum of those that succeed. Thus every man, every nation, every age, and every epoch, has some idea to translate. The aggregate of these ideas, thus to be translated in any given age, constitutes *the spirit of that age*, which is expressed by its *institutions*, such as government, laws, the church, standing armies, commerce, &c. From these institutions again is evolved a spirit which survives the institutions themselves, and

is placed as an additional factor with those that preceded it; and the whole constitutes an element for a successor to *start from* and *improve*. By this arrangement we behold provision made for the infinite progress of the mind; we behold established the perpetuity, the eternity, as it were, of the human mind through the physical changes of individual life and death.

Vico was the first historical writer who denied the personality or individuality of greatness; that is, he took from "illustrious personages in history their personal greatness, in order to give it back to humanity itself, to the time, to the century in which these persons made their appearance." Homer, for instance, he considers as a kind of mythe, a mere symbol of his century; or that, if he really did exist, all the works of the people of the century which he represents in history, have been added to his own, and placed to his account. It is the same with regard to all other eminent individuals in history. This singular idea has been adopted by Cousin in the work we are now reviewing, and forms a prominent feature of his philosophy of history, as we shall hereafter see. So much, then, for Bossuet and Vico. The vices of their respective systems are so apparent as almost to sink them beneath the dignity of criticism. We have only mentioned their works in order to mark the first feeble and tottering steps that were made by the genius of history towards that more complete development it is beginning to attain in our own day.

The movement of science is always and necessarily from decomposition to recombination. The next historian of humanity is Herder, who hails from Germany. Bossuet and Vico, in their respective histories, had decomposed the elements of humanity. Herder recomposes them. The great work of Herder, therefore, includes the two elements which had been so exclusively aggrandized by his predecessors, and includes also other elements which they had suppressed or overlooked. The fine arts, for instance, is one of the elements of humanity. Herder himself was an elegant and distinguished poet. Hence, in his work, all that relate to arts, poetry and literature, are treated in a masterly manner; and industry, commerce, and even philosophy, find appropriate places there. Since Herder, no one, we believe, has attempted an universal history of humanity upon philosophical principles. About twenty years ago Frederick Von Schlegel published a series of lectures, which he delivered at Vienna, under the title of "Philosophy of History;" and more recently Michellet has published a work, which he styles "Introduction to Universal History," in which he has reproduced mainly some of the leading principles of Vico, whose great work (*Nova Scienza*) he had just previously translated into the French language. Though valuable for the rules and suggestions which they contain, yet neither of these works, that is, Schlegel's nor Michellet's, can rank as histories.

If science necessarily advances from decomposition to recombination, it is also no less necessary that it should return again to decomposition in order to make another step forward. Hence, all the elements recomposed and combined within the frame of Herder's "Outlines," have subsequently been disengaged from each other, and have been treated separately in a much more ample and elaborate

manner than was possible in a combined whole. Having been thus decomposed in order to be amplified, their recombination must be effected by an agency very different from that employed by Herder, and by a description of mind very different from his; for it must be remembered that Herder had cultivated polite literature more than philosophy—that he was in fact a poet and not a philosopher—hence the peculiar character of his work. From this it will be perceived that the next agent to be employed in reconstructing into a systematic fabric the different elements of history, which had been collected by Herder, and which have since been detached in order that the parts should be more fully developed, elaborated and amplified, must be a purely *philosophical* agent; and the next historian of humanity must, therefore, necessarily be a philosopher.

This point in our short and rapid review of the rise and progress of the philosophy of history, brings us exactly back to Tennemann, and connects the philosophy of history with the philosophy of spiritualism, of which Tennemann was the historian. In effect it is this philosophy of spiritualism which suggests a new plan upon which to reconstruct an universal history of humanity. "By indicating the general ideas which have been predominant in the different epochs, and by expressing them in the forms properly belonging to the science of which he writes the history, namely, to metaphysics, Tennemann has prepared the way for that superior point of view which beholds in history nothing but *ideas*, their succession, their conflict, and, in spite of apparent disorder, their regular developement; and which consequently regards history as a real system, and a true and entire philosophy." This suggestion has been fully adopted by Cousin, in the work now before us, and, indeed, forms the basis of his philosophy of history, as will presently be seen in the sequel.

In short, the philosophy of spiritualism or idealism carries itself into the history of humanity, just as it had previously impressed itself upon every other department of human affairs. This truly was a last and necessary corollary from its premises, and, indeed, it was a last and indispensable condition of its existence. Having thus fulfilled all the conditions requisite to constitute it a complete system of philosophy, having been completely developed, having given to the world all that was contained in it and all of which it was capable—in fine, having performed its mission, and there being nothing left and nothing more required for it to do, spiritualism needs must perish in order to give way to a more capacious philosophy which will succeed it, and which will begin where it left off. But how does it perish? Being itself one of the decomposed elements of Cartesianism, it loses its separate, isolate, independent, individual existence by entering into a new and more comprehensive recombination along with sensualism and all the other exclusive elements of philosophy that, for near two centuries past, have been maturing in Europe. It is precisely this recombination which our author attempts, or at least foreshadows, under the name of eclecticism. It is to be hoped that we have now a clear and accurate knowledge of this vexed and enigmatical phrase, as well as of the still more difficult philosophy which it was designed to embrace. Although we have arrived at this knowledge by a circuitous and per-

haps, a somewhat tedious route ; yet, as some recompense for our toil, we have picked up by the way pretty much all the material of which our author's system is composed. It now only remains to see the use he makes of this material, in so far as concerns its ability as an agent to construct history into a pure science. This enquiry will form the subject of our labors.

M. Cousin and eclecticism may, therefore, be said to be the lost word, the last grand product, and the highest and most perfect expression, not only of the philosophy of the eighteenth and nineteenth centuries, but of all antecedent time. Where then is to be found a more proper witness to interrogate, or one more competent to enlighten us on a topic that has so long been forcing itself upon the attention of mankind with a pertinacity that defies all obstacles, and that disregards rebukes, ridicule, persecution, scorn, contumely, and even silent contempt and the most withering neglect ; crushed to-day, it resurfaces to-morrow ; in despite of all difficulties attending its solution, again and again it comes up in the human heart and challenges investigation. It is in vain, therefore, that we try to exorcise a spirit so unquiet. Like the ghost of Banquo, it will not down. Assuredly it has a mission to perform, a tale to unfold, or it would not so walk the earth. Whether, then, it be "a spirit of health, or goblin damn'd"—whether it bring with it "airs from heaven, or blasts from hell"—"be its intents wicked, or charitable"—let us approach it, speak to it, and listen to its revelations ; for to this complexion we must come at last.

The work now before us is a series of lectures, delivered and published in Paris in 1828, translated for the American public by Mr. Linberg, and published in Boston in 1832. We know of no other of M. Cousin's writings that has been translated into our language—the more is the pity, and shame, too, for us, that such is the fact ; for he is undoubtedly the greatest dialectitian, the ablest master of his language, and the most erudite scholar that has lived in modern times. The mind of M. Cousin, during his philosophical career, passed through many changes and modifications. He began as a disciple of the Scotch school of Reid and Stewart, under the tutilage of his old friend and master M. Reger Collard ; thence he passed to the German school of Kant. He has also acknowledged alternately the influence of Fichte, Schelling, Hegel, as well as of Proclus and Descartes, until eventually he sat up for himself, and, as already stated, founded a school of his own, compounded of all the others. These lectures, besides being a general introduction to the universal history of philosophy, contain an outline, a summary but complete and luminous exposition of all the leading principles of this school, as well as of all the other different schools of philosophy that have alternately prevailed in Europe during the last two centuries. It is our design, however, at present, to introduce this philosophy to the American public only so far as its principles are applicable to the "New Science" which it claims to verify, if, indeed, not to have created, and which it has selected as one of the tests or counter proofs of its own verification ; that is, to look a little way into the history of humanity by the light of philosophy. The utmost we expect, or hope to do, is to excite in our countrymen a spirit of enquiry on the subject. If, therefore, anything we may say should

be so fortunate as to awake in the mind of a single reader a desire to know more, it will be, if not enough, a great deal achieved.

We now come to an analysis and examination of the internal structure of Cousin's peculiar system. In the translator's preface we are told that "M. Cousin considers history as a complete and systematically arranged account of the successive and simultaneous developments of all the elements which constitute humanity; and thus as the most complete and luminous philosophy of the human mind. And, as the mind of a human individual is the only type and representative which presents to human understanding a visible image of humanity in general; and as the elements which constitute humanity in one individual must be the same as those which constitute humanity in great bodies of human individuals; he thinks it necessary first to examine the development of these elements, as they present themselves to us in our own consciousness; in order to discover the principles, according to which we are to examine the development of humanity, on a more extensive scale, in the process of civilization which it is the province of history to represent. He, therefore, enters into a most ingenious analysis of the elements of human thought, which he reduces to three fundamental elements, without which no object of perception can be given to human understanding; and which are, therefore, discoverable in all objects of our perception, in our ideas of ourselves, of the human race, of nature, of God, and of all things."

This is a succinct and very accurate statement of Cousin's mode of conducting his subject. For instance; he demonstrates, by what he calls *psychological* analysis, that philosophy is one of the specific, certain, permanent, and indestructible demands of the human character. This *psychological* method deals only with the facts of individual thought, which are complicated, fugitive, obscure, and so deep within the interiors of the mind, that they are almost beyond the reach of apprehension. History is the visible image of the aggregate mind of the whole human race, of which the individual is an epitome, presenting to the eye of the philosopher, on an enlarged scale, and in well defined, material, visible forms, those ideal facts which lie concealed as mere abstractions within the bosom of human nature. He, therefore, strengthens his *psychological* demonstrations by a counter demonstration, which he calls *historical* analysis; the latter being, not a more certain, but a more luminous method; which, without controlling the former, confirms it. He also undertakes to demonstrate by history, that philosophy, being a want inherent in the human character, has never been absent from any epoch of humanity, but has accompanied the whole course of its development—that the development of the human race in space and time, is history—that it is a *development*, because there is and can be no history of that which does not develop itself. We must here, by way of parenthesis, object to this latter declaration; not that the conclusion or sequence is illogical; but because the assertion is made without proof; in short, because the premiss is false; for the life of man, or the life of humanity is *not* a development, but a growth; between which two processes there is a wide difference. Development is simply the unfolding of what was originally within; whereas, growth is an accretion which "is effected by assimili-

lating, according to an internal law, or vital process, appropriate food from without." We merely make a note of this for the present, in order to direct the attention of the reader to it, designing to make a further use of it hereafter in a more appropriate place. M. Cousin thence proceeds to show that the idea implied by that of development, is the idea of progress—that all history, then, implies a development, a progressive march—that the progressive development of the human race in history is civilization—that, if human nature manifests itself in the individual, it manifests itself also in the species, the one being simply and only on a larger scale than the other—that as many elements as there are in human nature, and in the individual; as many as there are in the species; so many, do history and civilization develop. Therefore, he concludes, as human nature is the matter and the basis of history, so history is again the judge of human nature: and historical analysis is the counter proof of phychological analysis. "In a word, the certainty of interior observation precedes that of history; but the certainty of history, is a guarantee of the former. History is a representation of human nature on a grand scale: and that which is scarcely perceptible in consciousness, shines forth in history, in luminous characters." He, therefore, in the first place, interrogates consciousness and wrings from it the confession that philosophy has a real and incontestable existence there; he then subjects history to the question, and professes to have obtained thence the acknowledgment that philosophy possesses also an historical existence: for if philosophy, after the lapse of three or four thousand years, has not yet existed, he concludes there is some danger that it may never exist.

Here, then, is the use which M. Cousin, in the book before us, makes of history. While he employs history as a counter proof of the existence of philosophy, he, at the same time, employs philosophy as an architect to reconstruct history into a systematic plan, a positive science; and makes the two advance *pari passu*, in parallel lines, from the earliest period of the human race, until finally, in eclecticism, they meet to explain, verify and illustrate each other. How well he has succeeded in this difficult enterprise will appear in the sequel. In the outset, however, we beg leave to state our conviction, that M. Cousin, in the prosecution of his design, has reproduced one of those mischievous consequences to which history, in its present imperfect and unorganized condition, is so unavoidably subjected. If, for the selfish purpose of making out his case, he shall be found to have falsified, in the slightest degree, the readings of history, or to have tortured from its testimony a meaning which it will not legitimately bear, or which arrays its facts in contradictory attitudes towards each other, additional proof will thereby be afforded how urgent is the necessity for arranging those facts into a scientific classification, whose teachings shall be as infallible as are the teachings of any other of the positive sciences.

Though these lectures, by the title affixed to them, profess to be only an "Introduction to the History of Philosophy," yet in the above short and imperfect sketch, we have endeavored to show the nature of the service human history has been made to render to the subject, and also the nature of the service M. Cousin's Eclectic Philosophy has

been made to render to human history. By this method the two are brought, not only into immediate juxtaposition, but into mutual dependence upon each other, and the necessity is thereby imposed of mutually discussing each by the light of each.

As we have seen, the method which presides over the whole course of M. Cousin's instruction, is of a compound character—it is the identity of psychological and historical analysis, which may be summed up as follows: Empiricism, by itself, can conduct us only to a knowledge of what has already occurred, without explaining why it occurred, or occurred thus and there, and not *otherwise* or *elsewhere*. On the other hand, the speculative method may lead us into a false system, which will again lead us to a false view of history. The union of the two methods will give us not only facts, but their relations as well, and from their relations extract their laws. Psychology begins *a priori*; historical analysis, by way of counterpoise, comes in and advances to the same end by the method *a posteriori*. The one seeks the primary and essential elements of humanity, deriving thence their fundamental relations, and from these the laws of their development and the order of succession; and finally, history, philosophically read, confirms or rejects the results thus obtained. Having premised thus much, we will now enquire, what are these essential elements of humanity? What are these fundamental wants of the spirit of man? That is, what are those general ideas which preside over and govern human activity?

Mr. Cousin has assigned to human nature five fundamental wants or essential elements; that is, in other words, five general ideas which control the development of humanity in time and space. They are these:—1. The idea of the *useful*; 2. The idea of the *just*; 3. The idea of the *beautiful*; 4, The idea of the *holy* and *divine*; 5, and lastly, and superior to all, the idea of the *true*.

And now it becomes necessary to leave our author for a short space, in order to give the general reader a clear conception of this part of the subject. To do this, he must be inducted into some of the mysteries of philosophy; and especially he must be taught the philosophical signification of the term "IDEA," of which so much use is made in these lectures. This knowledge, Cousin has not thought proper to communicate in a manner sufficiently clear to the uninitiated; nor, indeed, did it properly come within the sphere of his instructions to do so, inasmuch as he was presumed to be addressing an audience composed of scholars and students who had already made sufficient advancement into the arcana of philosophy to understand at least the import of the technicalities he employed. Such a supposition, however, will in no wise hold good in respect to the mass of readers in this country, who are presumed to have been more busied with the mysteries of dollars and cents than with the mysteries of French and German philosophies. In giving this explanation, we will avoid entirely the nomenclatures employed by philosophers, such as the "me" and the "not me," "objective" and "subjective," "impersonality," "spontaneity," and many other phrases which we opine would be "all Greek" to most of our readers. Instead of using exclusively the term "IDEA," as Cousin does, we will vary it occasionally with that of "spirit,"

which, in this connection, means precisely the same thing, though people ordinarily are very far from attaching precisely the same meaning to the two words; in science, however, this branch of philosophy is called indiscriminately "idealism" and "spiritualism." The reader will here please to remember what we said concerning Tennemann, who was the first to conceive of treating history after this method, that is, from the point of view afforded by the philosophy of "idealism or "spiritualism," and who, therefore, saw in history nothing but *ideas*, their succession, their conflict, and, in spite of apparent disorder, their regular development. This method, as we have already remarked, is adopted by Cousin to its fullest extent, as we shall presently see; and as he is now about to unfold it in the most ample manner, we have deemed it necessary to preface the exposition with the following introductory remarks, which will the better enable the reader to go with him and to appreciate his *quasi* demonstrations.

According to the continental philosophy, the common and vulgar belief that spirit and matter are two distinct and independent existences is a common and vulgar error; and the opinion that spirit and matter are one and the same thing, or *identical*, is equally erroneous. Spirit is not matter refined, etherialized or sublimated, but matter is spirit actualized. Spirit and matter are inseparable, but not identical. We seize spirit or the ideal, only in the actual; that is, we can know spirit only as it is actualized in its phenomena. We can have no conception whatever of spirit except through matter, by means of which it lives and manifests itself. And matter in turn, must necessarily have a spiritual basis, for without spirit there would be nothing to be actualized. All matter, in every conceivable form and shape, are but the phenomena or the *acts* of idea or spirit. The idea must precede the act, and every act must have its basis in idea. Man, for instance, never acts until he thinks, and his acts are the realizations of his ideas. We can have no knowledge of man's ideas except through his acts; so we can have no conception of spirit except through matter, which are its acts. Man, that is, the individual man, is the actualization of the *genus*, humanity, which is the ideal, and this ideal dwells in the Infinite Mind, and was there created in idea, in thought, in spirit, merely *in potentia* as it were, before it was actualized into individual men and women. And this is true of all other material forms and substances. The *genera* or kinds existed, or were created in the Infinite Reason, before they were formed *in actu*, that is, before they were actualized in individual men, or individual plants, or individual any thing else.

[TO BE CONTINUED.]

Art. II.—DEER AND DEER HUNTING IN LOUISIANA.

In Louisiana, and, indeed, in the United States, so far as we are informed, there is but one species of the deer tribe.

The great Naturalist, Buffon, is very unsatisfactory in relation to the deer of Louisiana. He appears to have had no information on this interesting subject, except what was occasionally derived from a few New Orleans correspondents. Sometimes he styles our deer, the

"Fallow Deer," but his most common term is the "Roe Bucks of Louisiana." He remarks, "there are two species in America—the red, which is the largest, and brown, which has a white spot behind, very common for example in Louisiana, and larger than those in France. "The flesh of the brown roe buck is better than that of the red. No good roe bucks but those that inhabit dry and elevated countries."

It is very evident that this celebrated Naturalist was misinformed by his New Orleans correspondents; receiving from one a description of our deer when "in the red," and from another a description of the same animal when "in the blue," to use the phraseology of hunters. Indeed, the appearance of our deer in summer and winter is so very different, that his mistake in supposing two varieties in Louisiana is easily accounted for.

The American Naturalist, Godman, of Philadelphia, gives the most correct description of Louisiana deer that we have seen; but, like every Naturalist we have examined, he is silent in regard to their habits.

Cervus Virginianus is the technical name by which the Deer inhabiting the United States is now known to Naturalists; taking its name at that period of history when a great portion of our territory, embracing many of the largest States of the Union, was styled Virginia. The deer of the United States has also occasionally been styled, *Cerf de la Louisiane*.

This animal is so generally known that we conceive a minute description entirely unnecessary. Suffice it to say, that the deer is of a red color in summer, and of a color that is styled "blue" in winter, although the color in winter is a peculiar one. There are some few exceptions to these colors, which may, however, be looked upon as *lucus naturæ*. There is a pet deer about twenty miles distant from us, white, with red spots. There was a white buck in our vicinity for two or three years, as white as snow, which, although often seen and hunted, was never killed that we have heard.

The fawns are red, with small white spots on their sides like little stars. These spots are lost when they assume their winter color during the autumnal season. The horns of deer are of annual growth, covered with skin and hair, and very vascular. During the spring and early part of summer they are about the consistency of a beet or carrot, and are full of sensibility. Towards the latter part of summer they become hard and lose this sensibility. The skin that covers them becomes dry, and at this season the bucks rub their horns against little saplings to wear off the dead skin, and rub so hard as to remove the bark itself. The size of the horn and the number of its prongs or antlers are not correct indications of the size or age of a buck, (common opinion to the contrary notwithstanding.) A yearling buck has, however, but one straight prong, which, occasionally, at that age commences to fork at the top. Hence bucks of this age are usually styled "spike bucks," from the horns somewhat resembling a large nail. After a Deer is three or four years old, or rather after he has become an aged buck, the horns are not an indication of his size or age. The largest buck we ever killed had a medium sized pair of horns; the left

horn had but five antlers; the right the same number with the exception that its second prong had a prong about three inches in length. The age of a deer may be more correctly determined by his teeth, like an aged sheep or horse; by the broad set or shape of his body and by the grey hairs on his forehead, for like man the autumn of his life is besprinkled with the snowy locks of approaching old age.

The antlers of their horns frequently approach each other after having diverged. In fighting they get each others horns entangled so fast that they cannot separate them. The combatants thus starve and sometimes drown each other, if the combat should commence on the margin of a shallow lake or pond. A case of this kind happened in our neighborhood.

The size of a deer differs very much in the middle and southern states. Dr. Godman mentions one hundred and thirteen pounds as the weight of a large deer. This will probably do as an average weight for large bucks in the northern and middle states, but large bucks in the Mississippi swamp will weigh two hundred and seventy-five pounds. Several old bucks have been killed in our immediate neighborhood whose quarters, when butchered, weighed from one hundred and seventy-five pounds to one hundred and ninety pounds. We killed, in November last, a buck that weighed two hundred and thirty-two and a half pounds, on patent balances, after having lost a great quantity of blood. On the next day we killed one as tall and as lengthy, that weighed but one hundred and ten pounds. The former was a very fat aged buck, the latter was a buck of two or three years, and his body had not received that heavy set and wide spread that the full maturity of age bestows on man as well as beasts.

During the rooting season the necks of the old bucks swell up to about double their common size, and subside again at the close of that period.

HABITS.—During the rooting season, generally termed the running season by hunters, in consequence of the deer being almost continually in motion, the bucks are in the habit of scraping. This season in Louisiana is included in the months of November and December. At this time the bucks have their particular scraping places, and it is said that the doe also scrapes at these places, but of this we are not prepared to say. This scratching or scraping of the earth is done with their fore feet, and the scraping place is of a circular form. At this place there is invariably a small sapling or limb of a tree which the bucks root or twist with their horns. They scrape during the night, and sometimes a little after day light. They may be sometimes shot by watching these places very early in the morning, if it be still, that is to say, if there is no breeze and if other circumstances are favorable. This scratching by the bucks is equivalent to the biting of the bark of trees by the bear, the bellowing and scraping of the earth by the bull, the gobbling of the turkey, and the crowing of the cock; a challenge to combat and an indication of the excitement prevalent alike through the whole animal creation during the love season.

During the rooting or running season, the bucks and does are almost continually in motion, and at this period they are not governed by their usual habits, particularly in regard to the time of grazing and

browsing. With the exception of this season, they graze at night, if the nights are not very dark, and continue grazing until a little after sun rise, when they lie down for the rest of the day, till about sun set in hot weather. However, they drink about the middle of the day. When the nights are very dark they lie down during a part of it, and feed much later in the morning. During such times we have approached within sixty, feet and shot them before they rose, in our fire hunting excursions.

Their food consists of grasses, mosses, weeds; and they brouse on the tender buds of various kinds of shrubs and trees. Indeed, pet deer are very destructive to the buds of almost all kinds of shrubbery. They are fond of most kinds of mast, and are very particularly fond of the striped acorn, (a small oval acorn having stripes lengthwise) and this is their favorite food of the whole acorn family. They may generally be found, late in the fall and early part of winter, wherever this kind of mast abounds. They are also fond of young pumpkins, and are quite mischievous when they take a fancy to a pumpkin field. They are also fond of the top bud of the cotton plant. Deer usually prefer thickets, where they can conceal themselves in the day. There are two exceptions to this general rule, when flies and mosquitoes are very troublesome, they may be frequently found lying down or standing in open places, where the sun can shine, for they are aware that these insects cannot well bear the hot rays of the sun. They also lie down in such places on the south side of hills, at the season when their horns are becoming hard, the hunters say to dry their horns.

During their grazing time, which is generally, but not always, at night, they come out into the open woods. Wherever mast abounds, or wherever there is an abundance of food that they fancy, not unfrequently in cultivated fields, near to their range, they usually lie down in thickets of cane, bushes, prairie, grass, palmetto, or green briars, and when aroused, by man or dogs, they generally keep the thickets, unless they are hard pressed, when they occasionally run on open ground, but usually to the nearest thicket, and very generally different deer running over the same ground, make the same run, hence when hunters have driven the same neighborhood a few times, they know where the deer will make their run, and station themselves accordingly. These places are termed "STANDS." Deer when pursued in the day time do not pass by the same paths they do at night, when they are unmolested, because, as we have already remarked, they range more in open ground then.

If a deer is running, and not pressed, and hears a noise, unless a man is discovered or scented close, he will generally stop in a thicket, or on its margin, if one is hard by; if not he will stop by the side of a large tree if one be near, and we have often thought that they had a peculiar nack of getting the tree between us. They appear to be conscious that a large tree will protect one side of them. It is a common thing for still hunters, when a deer has been suddenly bounced up, or when one happens to be passing near, to bleat to it, imitating the noise of a fawn or doe. As a general remark, a deer will stop where his run happens to cross a road or pathway, that is much travelled, except when he is hard pressed by the dogs, and even under these

circumstances he will frequently stop. Sometimes in the middle of the road, but generally a little before he arrives at the road, particularly if there happens to be any bush, brush, or thicket of any kind there, or indeed, a tree or two. If it has been run hard, and the dogs are far behind and out of hearing, it will approach the road very cautiously, and the hunter must be very circumspect, particularly if the current of the air happens to pass from the stander into the drive, otherwise the deer will turn back and pass out of the drive at another stand, or at an unusual place. Their sense of smelling is remarkably acute, and a person unacquainted with deer, would scarcely believe that a deer could "wind" a man so far.

During the spring season, after the flies and mosquitoes have become troublesome, the deer frequent the shallow lakes and ponds during the day time, as a retreat from the annoyance of these insects. Sometimes they lie on little elevations, caused by the roots of trees, and not unfrequently in the water without any part of them visible except the head and neck, and these they occasionally plunge under. They select some place in the pond where the rays of the sun can penetrate, which drive away the mosquitoes, these insects not being able to bear the hot sun. At other times during this season they may be found in the more open parts of the forest, to which they resort for the same reason.

It is a generally received opinion with deer hunters of the western and southern states, that deer get up to feed at the rising of the moon, whether during the day or night, and they pay particular attention to this fact in still hunting in the day time, and in watching for them at deer licks during the night. We think that this opinion, so far as the night is concerned, is correct, for the fact is well known to deer hunters, that they do not feed much during dark nights. Hence it is probable that they rise with the moon, enabling them to see more distinctly.

Deer invariably get up to feed after a shower of rain, more particularly if there has not been a shower for some time. This is unquestionably a fact which all still hunters regard, and this is a favorite time to kill a deer. They may be induced to stir about at this time for two obvious reasons, first because it is disagreeable to them to lie down in the water; secondly their favorite food is refreshed by a shower.

In passing from place to place in the day, they invariably keep in or near the margin of thickets, if there are any in their route, and if there are none, then they pass where the trees are thickest, and if there are neither trees nor thickets intervening, and there should be patches of high grass, or weeds, they will pass through them.

In passing through hills, or mountains, a deer never attempts to run directly to its summit by the nearest and steepest course, but winds about at a gentle angle, somewhat after the meanderings of a turnpike road, in descending or ascending from, or to, the hills, or uplands, they observe the same rule; and in passing over hills, or mountains, they invariably pass through the low grass between the high points, and they never, when pursued, pass over the high knobs, or peaks of hills; hence when in deer driving a hunter takes a stand in the hills, he selects the lowest gaps.

Having now thrown out a few hints in regard to the natural characteristics of deer, we proceed to enumerate the different methods of hunting them, there are three: still hunting, driving, and fire hunting.

STILL HUNTING is by far the most common method of hunting deer, it is very appropriately styled *still* hunting, in consequence of the absolute necessity of being exceedingly careful not to make the least noise, as the sense of hearing is remarkably acute in the deer.

The Indians excel in this kind of hunting, for although their rifles, or shot guns, are of the most inferior order, they are quite successful in still hunting, in consequence of their hunting with much more caution and patience, than white men. When they get on favorite hunting grounds, they walk very slowly, and stop and look around them, very often, and approach the deer very closely if they happen to be to the windward of them, the color of their dress also favors them very much, as it resembles the color of the trunks of trees.

As the sight of the deer is very quick, the experienced hunter is particularly careful about the color of his dress, for any bright color, as scarlet, white, or brilliant yellow, would immediately attract their attention; hence he is careful to have his dress of a brown, or other dark color, or of a pepper and salt or mixed color, resembling as much as possible the color of trees and old logs; it is also quite important if the hunter rides, which is most usual, that his horse should be of a dark color. The description of gun preferred for still hunting is, of course, the rifle, and a favorite sized calibre is such as will receive a ball with a thin patch, thirty or forty of which will weigh a pound.

Sometimes, although not generally, the still hunter is accompanied by an active dog, trained to walk behind his master, and to remain quiet until he shoots, but as it requires good training to have a dog so well disciplined, he is generally dispensed with, although such a dog would be of unquestionable advantage in many cases. For instance, sometimes a deer is shot through the muscles of the thigh, and paralyzed for awhile, so that a fast running dog might catch him before he could recover. We have known a deer shot through the lungs with a large ball and fall to the ground as if dead, but after a little while recover and make its escape.

In the fall season, "when autumn's yellow luster gilds the world," a very favorite time for still hunting is during a white frosty morning:

"Soon as the morning trembles o'er the sky,
And unperceived unfolds the spreading day,"

until the frost has melted and dried. During this time deer invariably move about, and the leaves are so moistened by the frost that they will not crackle under the feet of the hunter and alarm the deer. Experienced hunters will not still hunt unless they are satisfied the deer are feeding, and the ground moist; and it is almost accidental if a deer is killed when it is lying down, and when the leaves are very dry.

Deer very generally during the warm weather get up and go to drink about the middle of the day, but are up but a very short time. This is a chance that is occasionally taken advantage of by still hunt-

ers, although it is not a favorite time. Another favorite time is immediately after a rain, more particularly if the weather should remain drizzly, misty, and warm, but if it should turn off cold, with a north wind, the deer resort to the thickets to screen themselves from the cold. At this time if the hunter is on hilly ground, he will find them in the closest thickets on the south side of the hills.

In the spring and summer months the deer feed towards sun-set and may often be seen feeding with the cattle, if they are not too much hunted, and on such feeding grounds as are adjacent to thickets.

When a deer has been approached by a still hunter, and has scented him, or, in hunter's phraseology, "got the wind of him," or when he has had but an imperfect view of the hunter, he will usually make a few bounds into an open space and stop, in order to satisfy his curiosity and ascertain the cause of his alarm. The hunter should always shoot at this time if he can see the deer, or any part of him, as it will be his last chance to get a shoot at that deer. When a place has been discovered where deer abound, it is not a bad method of hunting to sit quietly on a log at some point where their paths crop each other, more particularly during the running season.

DRIVING. — In order to drive successfully, it is very necessary that the hunter should be well acquainted with the ground over which it is proposed to drive, and that he be well acquainted with the stands where the deer usually pass. An experienced hunter, after having examined the ground, will very generally form a correct opinion in regard to these matters.

The gun usually preferred for this description of hunting is, of course, the double-barreled shot gun of sufficient weight of metal. The calibre of the gun should chamber three or four of the largest sized buck shot. On this point there is a difference of opinion among hunters; indeed, some prefer the smallest sized buck shot. But leaving this matter to each one's fancy, it is certain that in regard to the load of shot no more shot should be put in at a load than a reasonable quantity of powder will carry upwards of sixty yards, without allowing the shot to strike the earth. We have generally preferred nine large buck shot for a medium gun, to eighteen, and are perfectly satisfied that it is a very common practice to put too many shot in a load, so that in shooting at an object sixty or seventy yards distant, one third of them will strike the earth. Now it is very evident that if those shot that strike the earth were not put in the gun, the force of powder expended in forcing them the distance they are carried, would have propelled the other shot with much more velocity, and would have carried them on a level to a much greater distance. Hence the folly of overloading with shot. The load of shot and powder can be settled more accurately by practice, and by adaptation to the calibre of the gun, than by any fixed rule that can be laid down. We have a few acquaintances who prefer the rifle carrying a ball of about thirty or forty to the pound, to a shot gun. These gentlemen are, however, "great shots," and will shoot a deer through with a single ball oftener than they will miss him, although he may be at the top of his speed. There are two advantages that the rifle has over the shot gun in driving; the first is that, if you strike a deer with a large rifle ball you do

much more execution than if you strike it with a buck shot. Again: if the deer makes a stop within the range of the driver, he can kill at a much greater distance with a rifle than with a shot gun. Those who are very expert in using a rifle, often prefer them at a stand where there is not much undergrowth. Under other circumstances the shot gun is preferred.

The description of dogs that are preferred for driving are, as a matter of course, hounds. Sometimes the tall, active, and sprightly stag hound is preferred, and under other circumstances, beagles, or low, muscular, slow running dogs are preferable. Where deer are very numerous, and the drives are short, slow running dogs are best. If the dogs are slow, the deer will prance about at their leisure, and will very often stop and look back at the dogs, and squat in the bushes until the dogs approach within sixty or seventy yards, and if the dogs happen to start another deer, they will remain until the dogs have passed. It must be very evident, under these circumstances, that the driver and standers both have a better chance to get a shoot than if the deer were pressed hard by a fast "*team*" of dogs.

There are, however, circumstances under which very speedy hounds would be preferable, for instance, where deer are very scarce, and the drives very large. Under these circumstances, it is often necessary to press the deer hard to force them by the standers and to avoid losing the trail if the deer should be very shy, and should happen to get a great start from the dogs. Indeed, the same causes that make deer very scarce make them quite shy. In the selection of stands we have already given the reader sufficient data under the habits of deer.

In driving deer, as well as bear, if the driver expects to get a shot, it would be very imprudent to whoop to the dogs, as it is unnecessary, if they are active and acquainted with the drive. If too much noise is not made, and the drive is thickety, a deer will very generally run a short distance and stop, particularly if the driver has come upon him and bounced him up without trailing him. He will stop to satisfy himself as to the cause that has sprung him, and will generally stop in an open place where he can get a view of his intruders.

"But 'ere his fleet career he took
The dew-drops from his flanks he shook,
Like crested leader, proud and high,
Tossed his beamed frontlet to the sky;
A moment gazed adown the vale;
A moment snuffed the tainted gale;
A moment listened to the cry
That thickened as the chase drew nigh."

If the driver does not get a shot at this time, there is but little chance for him when the deer starts again; and, under these circumstances, he should take the chance, whether good or bad, for the deer will stop but for a "moment," as Scott has truly said.

FIRE HUNTING.—The fire hunter usually wears a cap or ties up his head with a handkerchief, in order to avoid the large shadow that a hat would make; and, to a great extent, would prevent the hunter from discovering "eyes." The fire pan, as it is usually termed, is made of

rods of iron or of hoop iron. The shape of it is that of a deep frying pan, and attached to a staff some five or six feet in length. The structure of the pan is open work, so that the air may pass through it freely, that the fire may glow brightly as the hunter waves it along behind. The staff is placed over the left shoulder, and the left arm thrown across it in front, for support. The head of the hunter is always kept between the fire and the point or direction which he looks for "eyes." Sometimes fire hunters hunt on foot; but most generally on horse; in which case they cover their horse's back with a blanket to prevent the hot ashes and coals, as they fall from the pan, from burning the horse. It requires two persons to "fire hunt" successfully; one to carry the pan and find the deer, the other to ride immediately behind him and carry the gun and the bag of pine. The pine is cut up in pieces about six inches in length. When the hunter discovers the eyes of a deer, he waves his right hand behind him as a signal for his companion to hand him his double barreled shot gun, which is the favorite gun for this description of hunting. An experienced "fire hunter" can immediately distinguish the eyes of a deer in the darkest night, at a very considerable distance, from those of any other animal. First, by their brilliancy; secondly, by their size, and thirdly, by their distance apart. Their size and distance from each other are about the same as those of a colt, but they are much more brilliant. Indeed, colt's eyes are comparatively very dim. A careless hunter, or one inexperienced, would occasionally shoot a colt or horse by mistake. There was a neighbor of ours who went out on a fire hunting excursion, some years since, in Bœuff Prairie, and, after having discovered the eyes of a deer, he dismounted, and, with his companion, fastened their horses and advanced towards the deer. He walked after it for some distance, occasionally losing sight of the eyes; finally he "shined," when, behold, he had shot his favorite saddle horse. A deer gazes very steadily at the light; so that when once discovered, he may be generally approached and shot before he looks away.

If a hunter once loses the "eyes," and then discovers them again in another direction, he is satisfied that the deer is about moving off; and in that case, he embraces the first opportunity to shoot. A deer gazes at a light with great steadiness and intensity; on the contrary, a wolf or bear are constantly moving and turning their heads about, particularly the wolf; so much so, that he is readily distinguished by this habit of looking alternately to and from the light. The eyes of the raccoon are very often "shined" in fire hunting. They are readily distinguished from those of any other animal by their smallness, their brilliancy and their closeness, or the little space between them. They are generally seen on the edge of ponds, busily engaged in catching frogs and crawfish, or in trees.

The night most favorable for fire hunting is a wet, still, misty, dark night, after a rain, which renders the leaves that have fallen on the ground so moist, that they will make no noise as the hunter approaches to shoot. It is almost incredible how close a deer may be approached, under favorable circumstances, without appearing in the least concerned. We have often approached within twenty or thirty yards,

and the deer would pay no attention to us. Indeed, they are very often shot before they would get up. Their eyes are most probably dazzled by the brilliancy of the light, so that they can not see, or they may be amazed at the novel appearance, or both. It is most surprising to see how very gentle and quiet the most timid animals are by fire light.

Daniel Boon, the far famed pioneer and hunter of Kentucky, is said to have met and "shined" the eyes of his wife. The first time he ever beheld her was during one of his fire hunting excursions, when a young man, in the midst of the romantic scenery of Western Virginia. It is said by one of his biographers, that she was on her way to the spring. If this be true, it proves that, under favorable circumstances, the eyes of a *deer* may be "shined" as well as those of a deer.

Art. VIII.—NORTHERN LOUISIANA AND ARKANSAS.

PARISH OF OUACHITA; MONROE, EL DORADO; CAMDEN; PRINCETON; LITTLE ROCK; HOT SPRINGS, ARKANSAS; THE MAGNET CAVE; CHALYBEATE SPRINGS; OIL-STONE QUARRIES OF ARKANSAS; FARMERSVILLE; DESCRIPTION OF THE HOT SPRINGS; SOCIETY, HEALTH, WATER, ETC., ETC.

(CONCLUDED FROM JANUARY NO.)

These oil-stones are wagoned to Little Rock at an expense of from one-half to three-fourth cents per pound, and thence to different parts of the Union. But as there will soon be boats running on the Ouachita to Rock Port, only about 24 miles from this, and by a far better road, the expense will be much reduced.

The production of the country about the Hot Springs is principally corn—the broken nature of the ground allowing but small tracts to be brought into cultivation, and these not numerous. The farms are small. Some wheat of an excellent quality is also produced.

We went from here to Iron's Sulphur Springs, which are situated a little north of west, between the north and middle fork of the Ouachita.

These springs were formerly much resorted to, but Sulphur Springs having been discovered in so many more convenient places, they have lost much of their wonted reputation.

From the Hot Springs to Blakely's Mountains, a distance of 16 miles, the land is generally tolerably good, particularly on the borders of Glazy Pool—a large stream or creek, which empties into the Ouachita some eight miles above the springs. Blakely's Mountains is the highest range in the environs of the springs, and the ascent steep, though a fine wagon road crosses them—beyond these, until you arrive at the north fork of the Ouachita, the road passes near the river and has fine bodies of good land near it—but from the quantity of overflowed land is considered quite unhealthy.

With the exception of the margin of the river and the creek bottom, the hills are nearly all composed of slate—having a northern *dip*.

This slate appears to be of a good quality, though none of it has ever been quarried to test it fully.

Among the mountains are found great quantities of chrystralized quartz, which is a source of considerable profit to many who procure it for the purpose of selling it to the visitors at the Hot Springs.

Corn, oats, wheat and some cotton are cultivated, the corn yielding about forty bushels per acre.

This county (Montgomery) produces a considerable quantity of wheat, which is ground and wagoned to the counties south—some as far as Camden in Ouachita county.

Near these springs is the junction of the three-forks of the Ouachita, the north, south and middle forks, each a large creek of clear transparent water. The river thus commencing as it terminates, with three streams.

Retracing our steps after leaving the Hot Springs fifteen miles, we diverged to the right and struck the Ouachita at Rock Port, the ultima thule of steam navigation. This is the county seat of Hot Springs county of very recent date. Here is being constructed across the river a "Lattice Bridge," some 300 feet long, entirely enclosed and well built, cost \$20,000; over this passes the military road before mentioned.

Crossing the river here, we travelled 30 miles, to "Barkman's" on the Caddo. The hills are much the same as on the east side of the river, though more rocky.

The Caddo is a large creek emptying into the Ouachita, near Archadelphia in Clark county. From this to the Little Missouri the road passes through rich uplands, but sparsely settled. The Little Missouri is a large bayou which empties into the Ouachita, 35 miles, by water, above Camden. Its waters are turbid and the current swift, hence its name.

After crossing this the hills are higher and more sandy, and rocks entirely disappear. The soil not very rich, producing in favorable situations about 800 lbs. seed cotton the acre. After travelling some 30 miles we crossed the road leading from Camden to Washington, at the distance of 25 miles west of the former.

From the point we crossed this road to Eldorado, 50 miles distant, the hills become gradually less in elevation and the soil more productive. Cotton is here extensively cultivated. At Eldorado we again traversed the same road we had taken in going up, and, after proceeding some 15 miles, again diverged—taking the road to Farmersville, the seat of justice of Union parish. The face of the country is much the same as on the other road; the production chiefly cotton and corn.

FARMERSVILLE is a neat and thriving village, located on the summit of a high hill, one mile from Bayou d'Arbonne. This is a large bayou, sluggish, and navigable for middling sized steamboats to Farmersville, a distance of 60 miles from the Ouachita river, into which it empties. At the crossing is the junetion of the main branch of the d'Arbonne and Corneille—the former navigable for keelboats, for several miles. From this point to the Ouachita river, opposite Monroe, distance 31 miles, the road traverses Pine Hills, sandy and very productive, averaging 1000 lbs. seed cotton to the acre.

Thus we found the distance from Monroe to the Hot Springs, by Camden and Princeton, 207 miles, and by the west route, crossing the d'Arbonne, Little Missouri and Caddo 239 miles. The road by the former route being infinitely better in every respect.

Art. IV.—UNIVERSITIES.

DEFECTIVE ORGANIZATION OF AMERICAN UNIVERSITIES, ETC.

ONE of the wise and liberal provisions of the new Constitution of Louisiana calls for the establishment of a University in the city of New Orleans, devoted to the Arts, Sciences and Literature. In the first place, it may be said that of all cities in the Union, where such an institution on a broad and liberal platform should be established, New Orleans is the most important. The heart of the great Empire of the South and West, and in immediate proximity to the undeveloped regions of Mexico and the West Indies, it will be for this city to draw around her all the influences which letters, superadded to commerce, can afford. We would have her the Athens, as well as the Tyre of our country, and that there are any obstacles in the way of this which will not yield to enterprise, we are the last to admit. Let the views of our correspondent, then, receive the attention which they deserve. We are pleased to devote a few pages of the Review to the subject as one, not of local and circumscribed, but the most wide-spread and elevated, influences. We shall take occasion to append to this paper some extracts from the Report of Dr. Hawks, made to the Board of Administrators of our University a few weeks ago, in his character of President.

While the people of the United States surpass in general intelligence any other nation which has yet existed, it cannot be denied that they are excelled by some of the nations of Europe in the higher departments of learning. The commercial achievements of America must strike with wonder all who contemplate them. Her flag is borne into every corner of the world. Her merchant has become the carrier for nations who, a few short years since, had never heard her name. Her vessels are seen plunging through the briny deep, upon journeys half round the world, in which no sail is shortened because of darkness, and no stop at intermediate ports is made for fresh supplies. They compete against the greater cheapness of capital and labor of other nations, and distribute over the world all the blessings of commerce, on terms more favorable than ever before were known. In every branch of business enterprise, American superiority is so marked, that even Europe is beginning to acknowledge it. But not so in the number of learned men, brilliant as may be the instances of American excellence in the various departments of learning.

We wish to enquire why there is not the same marked superiority in learning, as in business enterprise? And we think the answer is:—business enterprise is free to all, learning is not. When we hear that one of our great merchants was the son of a poor farmer of New England, or that our largest manufacturer was, in boyhood, poor and friendless, we do not feel curious to know what lucky circumstance led to his eventual success. For, we know that business

enterprise is open to all, and that success will attend, not those who begin with the most money, but those who possess the most energy, prudence and sagacity. The wonder would be, not why they succeeded, but why, if they failed of success, they did not succeed.

American parents desire, almost universally, that their sons should be thoroughly educated. And the exceptions are daily becoming more and more rare, in which such desire is not felt. Every young man in the Union, of sufficient capacity, would, if it were practicable, with the exception, perhaps, of one out of every hundred, be thoroughly educated.

There are two causes why, at present, it is not practicable:

1. The great majority, if properly prepared to enter a University, are not able to defray the expense of a University education.
2. The great majority, even if able to defray the expense of a University education, are not properly prepared to enter a University.

Could the system be so modified, that all would be able to meet the expense? This can only be ascertained by learning what might be made the lowest possible amount of expenditure. Nothing is more certain, than that at present, this amount is far beyond the ability of the poor.

Among the people of the United States is a deep-seated distrust and jealousy of the large cities as places for the seats of government. This we believe well founded. But the same distrust seems to have been extended to the large cities as seats of learning. The Universities have been established generally in the neighborhood of inconsiderable towns, and usually so far from them that it is inconvenient, and almost impracticable for the students to reside elsewhere than in the University hotels and dormitories; indeed it is usually forbidden. The students are thus forced to constitute a society of themselves, and the conduct of each is influenced entirely, or to a great extent, by the student ideal of propriety. In order the more clearly to shew the evil results of this system, one of the European Universities, that of Berlin, will be taken to illustrate what might be gained by establishing the American Universities in the cities. On the American plan, the student being required to board in a hotel provided for him, must board there at a fixed price. This price, moderate enough for those able to pay it, is for the poor enormous. Such a system proclaims that those not able to live well, and who are willing to live upon a bare subsistence, shall not enjoy the advantages of a University education. Among the students at the University of Berlin are a thousand, of whom the annual average expense does not exceed for each one hundred and forty dollars. That sum covers as well professors' fees, books, board, lodging, and clothing, as all other expenses. The professors' fees amount to about twenty-seven dollars and a half. But there is no hotel provided for the student. And we may safely assume of these thousand young men, that they take barely sufficient food to sustain life and strength. For breakfast, black bread; a dinner which it would disgrace an American slaveholder to give his slave; a supper barely sufficient to lull the cravings of hunger. But with all this, he enjoys the glorious privilege of starving the body to obtain food for the soul. And he is permitted to do so in a manner which does not

expose his privations to the public gaze. Buried in the solitude of a large city, his conduct is uninfluenced by any student ideal of propriety. His fellow students around him number between two and three thousand. But his fellow men around him number three hundred thousand, and the student existence is merged in that of the citizen. As a charity-student, he would, perhaps, be better fed. But his privations are veiled by his solitude from the eyes of the world, his heart is chastened by his sufferings, when his eye meets the gaze of others, it does not quail from the feeling that he is sustained by public bounty, but with an inward consciousness that his very privations elevate him above those who seem more fortunate, he struggles on to better days. Debarred by his poverty from participating in the vices which tempt the young, he grapples the more ardently with the objects of his study. He is too poor to gratify the body; but the soul is fed, and fed daintily and richly.

These thousand young men constitute, no doubt, an invaluable check upon the conduct of the others. The rich must toil too, and toil hard and incessantly, or they will be far outstripped by the poor in the pursuit of knowledge. They must live temperately also, or the cool brains of the poor, rendered vigorous by their abstemiousness, will far out-match them.

A University education can never be brought within the reach of all, unless the expense of the student is reduced to the lowest possible point. With us, University education is a subject of great importance in a political point of view. The more universally educated the people become, the more stable will become the republic. Among a people universally well informed, a republican form is not only the natural, but it is the necessary form of government. Those who are sincerely conservative, must be the friends of universal education; for intelligence is the most deadly enemy of all innovations, which are calculated to subvert the government. Endowments of city-Universities which would exempt the student from the payment of professors' fees, could hardly create a perceptible increase in taxation, and would be of vast importance to those barely able to subsist themselves during their studies. Provisions and fuel cost about twice as much in Berlin as in our Western cities; books cost quite as much, and clothing is the only item which costs less. If the payment of professors's fees were rendered unnecessary, the difference in cheapness would be so much in favor of our Western cities that one hundred dollars might be safely assumed to be more than equal to the hundred and forty dollars expended by the poor in Berlin. And to reduce the amount to one hundred dollars, would place the Universities within the reach of all, who possessed the energy requisite to derive full benefit from such advantage. And it must not be forgotten that on the present system, in a very large number of cases, perhaps, more frequently than otherwise, the expenditures for items not necessary, amount to a greater sum than for those which are necessary.

A greater cheapness is not the only advantage to be derived from the large cities as the seats of learning. An increased morality might, with equal certainty, be counted upon. If the students resided among the citizens, the ideas of propriety entertained by the citizens, would

control their sentiments, and influence their conduct. If even profigate, they would not be so from fashion. If they were regarded as citizens, and a proper police enforced by the police men, and the student who violated good order arrested by the same policeman who arrested the common vagabond, and tried by the same peace-officer who tried the vagabond, the violation of good order would be the very opposite of the fashion.

The capacity to acquire learning, or to impart it, depends very much upon the state of the affections, the condition of the heart, of professor and student. It is only when the professor meets the student with an affection similar to that of elder brother for younger brother, and when there exists a feeling of respect of one for the other, that his instruction is imparted thoroughly, and that it is thoroughly appreciated. Where the professor is forced, as policeman, to watch for the peccadilles of the student, a mutual distrust, and sometimes a mutual feeling of contempt will arise, where affection and respect ought to prevail, and must prevail, in order for instruction to do its part. And we think it may be contended that a city is more favorable than the country to a thorough development of the mind. There the young votary of learning will see displayed all the prominent features of the human character, every thing that is noble, as well as every thing that is mean standing out in bold and distinct outline. He will see a display of human energy, an utter abandonment of the soul to the one object of pursuit, which cannot elsewhere be seen. Having resided, perhaps, in some country neighborhood, where each individual is necessarily of considerable importance, he is astonished to find himself a cypher in the throng around him. Groups no longer cease conversation as he approaches; and the world is unconscious of his existence. He is seized by the energy of feeling around him—his heart throbs with a vigor never before experienced—he determines to triumph over the indifference of the multitude—he starts off with an ardor inexpressible upon the glorious pathway of learning. A Franklin, a Bowditch, and a host of other noble men have, in despite of their poverty, devoted themselves to the love of truth, and added unspeakably to the glory of their country. They may seem to have demonstrated that Universities are useless. To them city life was, to some extent, the substitute for a University. Had they grown up in thinly settled country neighborhoods, they would have lived and died, as thousands annually do, profoundly ignorant of the great gifts heaven had bestowed upon them. For one such a man to pass from the cradle to the grave, his mind undeveloped, is a national calamity. Had Bowditch enjoyed the advantages of a University education, America, too, would have had her La Place.

But, it may be said, that if the advantages of a University education were brought within the reach of all, by reducing the cost of subsistence to the lowest possible point, a majority of the young men of the country could not avail themselves of such advantages, because of their want of the requisite preparation to enter a University. This is, no doubt, true at present. We only contend that for the present the number would be largely increased, much more than quadrupled. In less than ten years the effects of the new system would be manifested

in the most marked manner upon the common schools and high schools. The vacancies of teacher in these schools would soon be all filled by University graduates. Free schools are extending themselves so rapidly, that they will soon be within the reach of all. The great question now, with reference to them, is—how shall they be properly supplied with teachers? Free Universities would supply them, and abundantly and cheaply. And they, in return, would send to the free Universities tens of thousands of well prepared scholars, with minds thoroughly trained for entering upon the higher departments of learning, and with souls burning with enthusiasm to explore truth in its most hidden recesses.

THE UNIVERSITY OF LOUISIANA.

We referred in the opening note to the University of Louisiana. The question of appropriating funds for its support is now before the Legislature of the State. That there will be a magnanimous liberality in the matter upon the part of that body we are left to infer from the enlightened spirit in regard to education which is now exhibiting itself in the State. The Legislature cannot but carry out the instructions of the people themselves when speaking in their primary capacity. We take our stand upon the Constitution. What will be twenty or thirty thousand dollars from such a State, devoted for a few years towards the establishment of an institution which will be an honor to the South, if not an ornament to the country. In vain will be all the efforts at primary education if there must be nothing beyond. Men must be reared and fitted for the highest pursuits and engagements of life, and reared and fitted ~~AT HOME~~. The South should take charge of her own sons, and not entrust them to the tender keeping and instructions of those who are hostile to the interests which these sons are hereafter to maintain. Shall this continued drain of money also be allowed, which has enriched the schools and colleges of every section of the Union at the expense of our own? Let us rather invite students to come among us, and keep our own where they are!

We do not think that the University of Louisiana will be any expense to the State. Hundreds of students from every quarter will flock to its various departments, and the fees of Professors must soon become entirely adequate to their support.

It can be shown as a matter of figures, that a gain will result from this movement entirely independent of those public considerations we have alleged above. It is computed that \$60,000 is even now expended annually in this State by those who are attracted here by the Lectures of the MEDICAL School. It would be fair to assume half that amount for the LAW Department, and should the LITERARY and SCIENTIFIC prove as successful, double the sum may be relied on from these sources. We urge this, not so much as an argument, but as a fact worthy of consideration by those who measure public movements by questions of *pecuniary* gain or loss which they involve. Even they may be convinced. But to the Report.

The following are the results of the Medical Department of the

University for the year 1847, as furnished in the letter of Dr. Wadderburn:

"Sir: — In accordance with your request I have to make the following report, concerning the Medical Department of the University of Louisiana.

The number of Medical Students is one hundred and sixty-two, notwithstanding the loss we have sustained in the number of the class from idle reports that were prevalent throughout the South and West, concerning the health of the city. Had the country been informed on the subject of the epidemic, which had entirely disappeared a month before this session of the School, we should, no doubt, have had a class of two hundred and fifty.

The amount of twenty-five thousand dollars, appropriated by the Legislature for the erection of the building for the Medical Department has been expended, and the Professors have assumed the responsibility for seven thousand dollars over this amount, in order that the building could be so far completed as to enable the Faculty to use the Lecture Room.

It will require fifteen thousand dollars more than the appropriation, to finish the building according to the plan and specifications."

The Law School is thus referred to by the Hon. H. A. Bullard:

"Sir: — I have the honor to report to you according to your suggestion, the present condition of the Law Faculty of the University.

The number of students in attendance, at this time, is thirty-one, most of whom attend the Lectures in all the branches taught. Our Lectures commenced on the first Monday of this month, by three professors only, a successor to Professor Wilde not having yet been appointed. Until that Chair shall have been filled, the branches, which had been specially assigned to Mr. Wilde, will be taught by his surviving colleagues."

In relation to the extended influences of the University, Dr. Hawks remarks:

"The State, in founding the institution, doubtless meant to accomplish the greatest possible amount of good; and, except as it does good, it is worse than useless, it is positively injurious, and does not deserve the patronage and support of the government.

In a country like ours, where every path of usefulness and honor is open to every man, where there is not, and cannot be, an aristocracy of learning any more than an aristocracy of rank, the State is vitally interested in making the means of attaining sound knowledge as common as possible. The humblest child in Louisiana may become one of her most distinguished and useful men; and thus repay the State ten-fold for all the fostering care she may have bestowed upon his education. In some countries, (and those be it remembered *not republics*,) such is the paternal care of the government, that the instructors of her institutions of learning, high and low, are officers of the State, and paid entirely from the public treasury; while the doors of her schools, colleges and universities are thrown wide open to all comers: merit and morals are the only grounds of admission or advancement. It is not possible for us, at this time, to adopt a system, similar in all respects to this; but it is desirable, and it is believed to be practicable, to adopt the best features of the plan, by the free admission into the preparatory school, and into the academic (as contradistinguished from the professional) schools of the University, of *all who are worthy and sufficiently prepared*. Indeed, in our country, this would seem to be but a simple act of justice, inasmuch as many parents, unable to afford to a child a liberal and full course of instruction in the University, are

yet required to pay a portion of the tax for education. But there are many youths whose parents are both able and willing to pay for the education of their children; nay, who would not be willing to send their sons to the University without making payment. But shall an invidious distinction be made between these, and those unable to pay? By no means. An attempt has been made in the statutes of the University, submitted to the consideration of the Board as part of this report, to meet this difficulty, and to that I respectfully refer."

The following judicious reflections in the Report refer to the peculiar character which should attach to an University established in New Orleans. We admire the practical turn which is advocated, and the preference given to the *useful* over the *ornamental*. The time has come when our Colleges are to aim at something more than Domine Sampsons. The man is ignorant and helpless, whose learning aids him nothing in his contact with his fellows. We must learn to meet the world—to know, if not control its ways, and a proper and useful direction may be given to learning from the very moment its rudiments are gathered.

"Without adopting all the views of modern utilitarianism, we hesitate not to say that the education is essentially defective which discards all consideration of utility. What is our condition?—Brought, by position, into immediate and direct contact with the French language, and with important relations constantly increasing with those who speak the Spanish, surely a thorough knowledge of these two modern languages, becomes, to us at least, of primary importance. But more than this—contemplate our geographical position. We are at the outlet of a valley, affording to us thousands of miles of inland navigation, and covering an extent of territory sufficient for the proudest empire, all bound together in a community of interest by that majestic river and its tributaries, which are, as it were, the chains by which the Omnipotent has fastened us together in indissoluble union. Do not these things clearly indicate our responsibilities and our duty? If we be not recreant to our duty, it must be that the influence to be exercised over this immense region, for good, by this great commercial emporium is literally incalculable. Place the University of Louisiana on a broad and liberal basis, and, independent of the direct benefit to our own State, hundreds of students will be found flocking here to the several departments, from all parts of the valley. This immense region is to be made the smiling home of millions of human beings. Its present population, although in number one half of the whole people of the United States, is yet scarcely perceptible on the broad surface over which it is scattered. The valley is to be subdued to the purposes of civilized man. Intelligence, (information that can be made subservient to this great end,) is indispensable. Science must be taught in its practical applications. With every variety of soil and vegetable productions, with immense wealth, now locked up in mineral treasures, with a constantly increasing necessity for facility of communication throughout the valley, it is obvious that the field for intellectual culture is vast indeed. There is scarce a department of natural science which may not be profitably

called into requisition. The chemistry of agriculture and manufactures; geology, mineralogy, mining, turnpikes, bridges, railroads, viaducts, aqueducts steam in its various applications—architecture with its kindred subjects, machinery, in short, all that is included under the general terms civil engineering, and mechanics—all are of direct and immediate interest. Our scientific course should be eminently a practical one; nor will it be confined to those students who are pursuing the regular and complete course of the University. Provision, it will be seen, is made in the statutes for a student who wishes to pursue a particular course, at the close of which he may receive his appropriate certificate or diploma from the institution. It affords me no little gratification to say that, as far as I could gather the views of the Board on the subject, in private intercourse, they correspond with that here presented; and on my recent visit to Harvard University, I found that by the private munificence of an individual, a foundation was laid for precisely a similar course of instruction in the practical application of science. It will thus be seen that without concert or communication even, the oldest and the youngest Universities of our common country, situated at the extreme north and south of our confederacy, by a gratifying coincidence of opinion, were simultaneously resolving on a similar step in education, as being demanded by the condition of our wide spread country.

But there is another department of which our situation requires us not to be unmindful. There should be a professorship devoted to COMMERCE in all its manifold relations. It presents a vastly extensive field, embracing the general history and statistics of commerce, its relation to the policy of nations, and the consequent happiness of man, its connexion with history and influence on civilization, the principles of commercial and maritime law with various other topics that readily suggest themselves. This feature, if adopted, would be peculiar to our University."

We give a passage in relation to the pecuniary considerations involved in the University:

"A grant of *money*, however, will also be indispensable, and, of course, the amount required must be largest in the beginning. Without a sufficient grant of means, it is obvious that success is impossible, and the very want of success thus created, will produce a distrust in the Legislature fatal to the institution. To me, it seems, that on the part of the Legislature, a generous confidence in the prudence and good faith of the board, is wise policy and enlightened legislation. If funds are granted, all of which must be disbursed under your direction, it appears to me there can be no waste, for your periodical reports present the history of your appropriations of every cent confided to your trust. Unless Louisiana is willing to make an effort on a *liberal* scale, the enterprise had better be abandoned. And why, may I ask, should Louisiana not make such an effort as is worthy of her? Her taxes for education alone annually amount to about \$300,000. Of her other taxes, how large a proportion is paid by New Orleans? Take, for instance, the tax that has been paid for years by the city for internal improvements. Look then through the State, and find, if you can,

a single parish which has not had the benefit of this tax, with the solitary exception of the parish of Orleans. It has never, as I believe, had an appropriation of one cent for any purpose of internal improvements. Surely New Orleans may then hope for a grant of means, the object of which is not merely her individual advancement, but the permanent intellectual improvement of the whole State. Beside, the amount of money that will actually be brought into the State by the University, added to that which is now sent out of the State to the North for purposes of education, prove it to be direct economy in a mere pecuniary point of view, to sustain the University liberally. The amount sent out annually is at a very low estimate, from 60 to \$80,000—the amount brought into and expended in New Orleans by the present Medical class alone is \$60,000 in six months. Of this a large part comes from without the State. Let the University be only moderately supported with students in all its departments, and it will cause an actual circulation of more money in the State, brought from abroad, than all its annual expenses amount to. Other States, less wealthy than Louisiana, have built up their institutions by judicious liberality. One of our best Southern Colleges is at Columbia, S. C. The State gives it \$25,000 per annum. It is money that procures suitable Professors elsewhere; money, therefore, will do it *here*: and with suitable Professors, what is to prevent Louisiana from having an University second to none in our country? In what will she differ from others, (if possessed of the necessary appliances) save in the parallel of latitude in which she is placed? As buildings are to be altered (if the old government buildings are obtained) books and apparatus to be obtained, and competent professors to be paid, a grant to the literary and scientific departments of less than \$30,000 a year for two years will not suffice. And in enforcing this application, let it be remembered, that to Louisiana will belong the honorable, and in America, *peculiar* feature of opening the doors of her highest literary institution to all who present themselves possessed of character and capacity. If the sum above named should appear to be large, it must not be forgotten that *every thing* is to be provided, and that much of the expenditure is made once for all. A foundation must be made for a library by procuring some of the indispensable books of reference in the department of each Professor; apparatus must be purchased, and the buildings must undergo some repairs and alterations. These last two, it will be borne in mind, are not annually recurring sources of expense."

The following letters, published in connection with the Report, show how lively an interest some of our enterprising citizens already manifest in the success of the University. That of Maunsel White, Esq., is peculiarly deserving of consideration. It is the first, as we think, successful movement made in the world to introduce COMMERCE as a subject of University knowledge. We rely upon the happiest influences for our whole country in the result. The time will come when the supineness of the past upon this subject will appear as a crime.

The letters of our fellow citizens, Judah Touro and Glendy Burke, are honorable to the high public spirit of these gentlemen:

New Orleans, January 5, 1848.

Rev. Dr. HAWKS, President of the University of Louisiana.

DEAR SIR: — I enclose five hundred dollars, which I beg leave, through you, to present as a donation to the University.

The object of the gift is encouragement in the cultivation of the Hebrew language, and the condition of my donation is, that (the principal remaining untouched) the interest of the sum enclosed, be annually appropriated to the procuring of a gold medal to be bestowed as a premium on the best scholar of the year in the Hebrew language.

Should there be no need of the *immediate* appropriation of the interest as above directed, or should there be hereafter, in any year, no student entitled to the medal, then I wish the interest thus unexpended to be laid aside until it amounts to a sum sufficient to yield an interest which will pay annually for a gold medal worth \$15, to be given in each year to the best scholar in Ancient History; after which, I wish such medal to be annually bestowed.

With my best wishes for the prosperity of the University,

I am, Dear Sir, Respectfully,

JUDAH TOURO.

New Orleans, January 17, 1848.

Rev. F. L. HAWKS, President of the Univresity of Louisiana.

DEAR SIR: — The sum enclosed in this note, five hundred dollars, I desire to present through you to the University.

The condition of the gift is, that the principal shall remain untouched, and the interest thereon shall annually be appropriated to procuring a gold medal to be bestowed on that pupil in the University who, in any year, shall excel in Elocution. The endowment is designed to establish what I wish to have called, "The Burke Premium for Elocution."

Wishing all possible prosperity to the Institution,

I am, Dear Sir, Yours, truly,

G. BURKE.

New Orleans, January 28, 1848.

To the Board of Administrators of the University of Louisiana.

GENTLEMEN: — Regarding with deep interest the movements now in progress among us for the establishment of a University, devoted to the Arts, Sciences, and Literature, I conceive that a further service may be rendered by me than in the character of an administrator of the Institution.

In this view I have succeeded in making some collections from public spirited citizens, and shall continue the effort that the funds may be invested in six per cent stocks, and I shall also dispose of some property on ground rent, to be donated and invested in a similar manner.

The object of this movement is to secure an endowment for a *Chair of Commerce, Public Economy and Statistics*, in the University. These matters have not, so far as I am informed, been made the subject of especial study in any of the Institutions of this country or of Europe. The States of the German Zoll Verein, indeed, as we learn by the foreign mail of to-day, constitute an exception, as they *intend* a "Commercial University," for merchants, manufacturers and commercial lawyers.

It will be the proud satisfaction of *New Orleans* to have taken the lead of all other commercial cities of the world in this matter, and it may be confidently affirmed that this important department of knowledge could be prosecuted with higher success and efficiency in no other city. To her commerce is the all and all of prosperity, and she the spontaneous, youthful, yet vigorous offspring.

A plan for the above professorship has been drawn out, at my request, by Mr. De Bow, a synopsis of which is annexed:

I am gentlemen with respect,

MAUNSEL WHITE.

PROFESSORSHIP OF PUBLIC ECONOMY, COMMERCE AND STATISTICS:

Embracing the Theoretic and Practical or Statistical Departments.

I. The THEORETIC: Origin of Society and Government; Theory, Forms and Ends of Government; Right, Duties and Relations of Government; Sources of National Wealth and Progress and Causes of National Decline; Production, Distribution and Consumption of Wealth with the Laws appertaining thereto.

II. The PRACTICAL AND STATISTICAL: Statistics of Population and Wealth in their application to Commerce, Agriculture and Manufactures.

1. History and Progress of COMMERCE, its Principles and Laws; Home and Foreign Commerce; Tariffs, Treaties, Life Insurance, Roads, Canals, Shipping, and Revenue, Systems of Reciprocity; Balances of Trade; Mercantile and Navigation Systems; Colonies and Colonial Systems; Banks, Finances, Accounts, Transportation, Book-keeping, Principles of Merchant Law; Commerce of Nations, Ancient and Modern; Geography of Commerce, Commodities of Commerce; Literature of Commerce, etc., etc.

2. Progress and results of AGRICULTURAL SCIENCE; Principles of Agriculture; Comparative condition of Agricultural, Commercial, and Manufacturing Communities; Statistics of Agriculture, etc.

3. Origin and Progress of the MANUFACTURING SYSTEM; its relations to the other Pursuits; Invention and Machinery in Manufactures; Condition of the Manufacturing Classes; Statistics of Manufactures, etc.

Text-Books for the Course among others.

Locke's Essays on Government; Lieber's Political Ethics and Hermeneutics; Montesquieu's Spirit of Laws; Smith's Wealth of Nations; McCulloch's Commercial and Geographical Dictionary; Say's Political Economy; Vethake's Political Economy; Carey on Wealth; Stephen's Progress of Discovery and Maritime Commerce; Heeren's Commercial Researches; Vincent's Commerce of the Ancients; McGregor's Commercial Legislation; Annual Reports American and Contemporary Governments, etc.

It should be required from the professorship to prepare and deliver twelve public lectures each year, upon subjects determined in its organization. For example, upon the "Sources of National Wealth and Decline;" on the "History and Progress of Commerce;" on the "Foreign Commercial Relations of the United States, including our Treaties;" upon "Finance;" on the "Results of Agriculture and the Advancement of Agricultural Classes;" on "Manufactures;" the "Science of Statistics;" the "Literature of Commerce," etc., etc.

It would be necessary to purchase *immediately* a library* for the Chair; and I have made up a brief catalogue of those works which are most important. I have doubtless overlooked many, but these can be purchased from time to time. In fact, those named constitute but a small part of the books which are desirable. They can be had in this country or in Europe.

* A public library in some central position, open at all times and free to all persons, is a great want in the city of New Orleans. No city in the Union is so defective in this particular, despite the strenuous efforts of the Second Municipality. We would have such a library for a large part *commercial* in its character. What are the Municipalities doing, it is often asked, in regard to the Fisk donation of books and building? We intended long ago to refer to this matter, but neglected in a press of various engagements. Would it not be advisable to construct an edifice for this library upon the University ground? What position more appropriate? Having before us the letter of Mr. Fisk, directed to our enterprising fellow-citizen, B. F. French, Esq., we will insert it to refresh the memory of our readers.

MY DEAR SIR: — The motive which actuated me in the purchase of your valuable and extensive library, containing many rare works, was, that it might be preserved to the city of New Orleans—with which place I have been connected in a commercial way for a great number of

LIBRARY OF THE CHAIR OF PUBLIC ECONOMY, COMMERCE AND STATISTICS.

Economics — Stewart's Inquiries in Political Economy; Lauderdale on Public Wealth; Smith's Wealth of Nations; Ricardo's Political Economy and Taxation; Malthus' Works on do.; Torens on the Production of Wealth; McCulloch's Works; Dr. Cooper's Treatise on Political Economy; Cardoza's do.; Whatley's do.; Chalmers' do.; Scrope's do.; Seniors' do.; Carey's Principles of Political Economy; Quincy's Logic of do.; Hume's Essays; West on Land and Capital; Ricardo's Dialogues; Bailey on Values; Jones on Wealth and Taxation; Boileau's Introduction to Political Economy; Young's Political Arithmetic, Foreign Works of Isnard, de Tracy, Say, Garnier, Ganhil, Douffroy, Sismondi, Droz, Blanqui, Rau, Chevalier, Rossi, Nerri, Becarria, Gioja, Pecchio, Munoz, Ward, Ortiz, Guarina's Estrado, Dictionnaire d'Economie, Scrittori Classici Italiani, di Economia Politica, etc., etc.

Commerce — Robertson's Mappe of Commerce; Roberts' Treasure of Trafkie; England's Treasure by Foreign Trade, by Thos. Mun; Fortrey's England's Interest and Improvement; Coke's Treatises on Trade, etc.; England's Great Happiness; Britannia Languens; Childs' Discourse of Trade; Dudley North's Discourses on Trade; Davenant on the Balance of Trade; King's British Merchant; Woods' Survey of Trade; Defoe's Plan of English Commerce; Gee's Trade and Navigation of Great Britain; Carey's Discourse on Trade, &c.; Dobbs on Trade of Ireland; Decker on the Decline of Trade; Tucker on the Trade of France and England; Tucker on Commerce and Taxes; Tucker on Trade of Turkey; Bell's Vindication of Commerce and the Arts; Postlethwayt's Dictionary of Trade and Commerce; do. Commercial Interest of Britain; Cantillon's Analysis of Trade; Rolt's Dictionary of Trade; Mortimer's Dictionary of Trade and Commerce; Mortimer's Elements of Commerce; Tucker's Tracts on the same subject; Sheffield on American Commerce; do, on Irish Commerce; Oddy's European Commerce; Mill's Defence of Commerce; McCulloch on its Principles and History; Pitkins' Commerce of the United States; Hagemeister on Russian Commerce; McGregor's Commercial Statistics; Melon's Essay on Commerce; Savary's Dictionary of Commerce; Condillac, du Commerce et Le Gouvernement; Ricardo's Traite du Commerce; Arnauld's Balance du Commerce; Sismondi, Laboulinierre, etc., on Commerce; Douglass' North American Settlements; Bacon's Colonization of the Free States of Antiquity; Moseley's Treatise of Sugar; Brougham's Colonial Policy; Edward's West Indies; Bliss' Colonial Intercourse; Bliss on the Timber Trade; Martin's Statistics of British Colonies; Merivale's Lectures on Colonization and Colonies; Mun on the India Trade; Robertson on Ancient Communication with India, and Modern Trade with it; McPherson's European Commerce with India; Milburn's Oriental Commerce; Chitty on the Laws of Commerce, Manufactures, &c.; Hooper on Ancient Measures; Reynardson on English Weights and Measures; Arthbutnott's Coins, Weights and Measures; John Quincy Adams' Report on Weights and Measures; Gordon's Universal Accountant and Complete Merchant; King's British Merchant; Hertslet's Treaties of England; Evelyn's Navigation and Commerce; Anderson on Commerce; Macpherson's Annals of Commerce; Vincent's Commerce of the Ancients; Stephen's Progress of Discovery, Navigation and Commerce; Cooley's Maritime and Inland Discovery; Heeren's Commercial Researches; Huet's History of Commerce; Depping's Histoire du Com-

years — and also to carry into effect the object of my late brother's request of establishing a public library for the benefit of the reading community, and to afford a pleasant resort to the numerous strangers who visit that great and growing commercial metropolis from every quarter of the world.

That this purpose may be promptly commenced, and ultimately extended, until it shall become in some degree commensurate with the resources and magnitude of its population, I now embrace the occasion, which this purpose presents, of tendering the entire library to that city, and of assuring you of the very great pleasure I derive in making you the organ of communication, to its Mayor and Aldermen; knowing as I do, the deep interest you take in founding and carrying out an enterprise of this nature, so connected with the intellectual and commercial, as well as classical and scientific reputation of that great city; and entertaining the hope that the advantage of your great experience and travels in Europe, as well as scholastic attainments, will be cheerfully bestowed, in systematizing and furthering this undertaking, and placing the library in a position for immediate use,

1 am, very truly,

Respectfully your friend and humble servant,
ALVAREZ FISK.

merce; Martin's *Commercio d'Veneziani*; Petty on Money; Locke's Treatises on Money; Sir Isaac Newton on Coinage; Leake's History of English Money; Harris on Money and Coins; Snelling's Works on Coinage; Merrey on the Coinage of England; Thornton on Paper Credit; Foster's Commercial Exchanges; Liverpool on Coinage; Blake on the Course of Exchange; Rudong's Annals of British Coinage; Gilbert's History of Banking; Gallatin on Currency and Banking in the United States; Gouge's Treatise on do.; Carey's Credit System; Tucker's Theory of Money and Banks; Tooke's History of Prices.

Agriculture, Manufactures, Internal Improvements, and Statistics, etc., etc.—M'Adam's Observations on Roads; Parnell on Roads; Phillipps' Inland Navigation; Woods' Treatise on Railroads; Petty's Essay's on Political Arithmetic; Works of Arthur Young; Dickson's Husbandry of the Ancients; Chalmers' Comparative Strength of Great Britain; Colquhoun on British Empire; Loudon's Encyclopaedia of Agriculture; McCulloch's Statistical Account of British Empire; Porter's Progress of the Nation; Porter's Tables of Revenue, Population, etc.; Tucker's Progress of the United States in Population and Wealth; Holland's History of Coal and the Coal Trade; Fraser's Fisheries of Great Britain; Elking's Greenland Trade and Fisheries; Scoresbey's Arctic Regions; Murray's Polar Seas; Babbage's Machinery and Manufactures; Schrievor on the Iron Trade; Ure's Dictionary of Arts, Manufactures and Mines; Bischoff on Woollen and Woolen Factories; Slater's American Manufactures; Morgan's Treatise on Life Insurance; Edmond's Tables on do.; Morgan's Essays on Probabilities Applied to Life Insurance; Bentham's Defence of Usury; Betero's Cause of the Greatness of Cities; Benjamin Franklin on the Increase of Men; Hume on Populousness of States; Short on Decrease of Mankind; Price, Wales, Malthus on English Population; Sumner's Treatise on the Records of the Creation; Saddler's Law of Population; Allison's Principles of Population; Hawkins' Elements of Medical Statistics; Thackrah on the Effects of Arts, Trades and Professions on Health and Longevity; Eden's History of the Laboring Classes and State of the Poor; Walker on Pauperism; Carey on Wages; Farland's Inquiries Concerning the Poor; Pratts' History of Savings Banks; Prostitution dans la ville de Paris, par M. Parent Duchatelet; Dalrymple on Feudal Property; Maugham on Literary Property; Godson on Copy and Patent Rights; Blairs' Slavery Among the Romans; Blandinel on the Slave Trade; Phillips on the National Debts; Saxby on the British Customs; Sinclair on the Revenue of the British Empire; Dr. Hamilton on the National Debt; McCulloch on Taxation; Dr. Davenant's Political and Commercial Works; Beckman's History of Inventions and Discoveries; Jacob's on the Precious Metals; Public Economy of Athens, by Boeckh; Vaughan's Age of Great Cities.

Art. V.—IMMIGRATION INTO THE UNITED STATES.

THAT the world is watching the progress of these United States, has been so often repeated, that national vanity may be pardoned even when displayed on the puny attempts of some miserable tourist to disparage the vastness, he cannot grasp, and the institutions he cannot comprehend. But while this great and preponderating influence looming up in futurity like a mountain, and growing and expanding with every year, that tests the worth and proves the stability of our noble and free government, may well excite feelings of the proudest patriotism; let us be willing to analyze, most carefully, every force that swells the aggregate of our national strength, and ferret out every element of weakness and decay.

It is for the republican institutions of America we hope and fear most. It is not because the soil of America offers an asylum, and her corn fields bread to the oppressed, that she is to be considered the great problem with the solution of which is connected the happiness

of our very race. Intimately connected with this question of the stability of our republican institutions, is to be viewed the influence of the vast accessions of inhabitants to our shore from distant lands. It has been the policy of America, from mingled motives, hitherto to encourage this daily increasing tide of foreigners. And the liberality of our government, and the course of legislation joined to the cheapness and excellence of the soil, have attracted from the earliest period of the Republic, the poor, the oppressed, and the adventurous, of all lands. The only checks in the transportation of the hosts have been extreme poverty, timidity and the lack of ships adequate to the mighty task.

It was early felt that wild luxuriance of nature needed hands to gather it, and that the ancient and boundless forests required something more than the natural increase of the first colonists to fill them during the first century, in order that they might become arable land. Foreign aid too had been received with deep gratitude during the war of the Revolution, and the first bands of immigrants were hailed by our fathers as brothers and friends. The first generation of those who succeeded the men of the Revolution has passed away. The three millions of the Revolution, and the six millions of the year 1810, have become now twenty millions, and the same necessity does not appear to exist in respect to a further increase of population. The terrible evils of a thickly populated country, as shown in the misery and famine of some portions of the Old World, have excited sentiments of doubt, that with all the unbounded frontier and the great valley of the Mississippi before us, we may yet complain of narrow limits. Party spirit has run high, and our fellow citizens of foreign birth, have, it has been thought, taken too prominent a part in political affairs, and by espousing in force one of the great parties have rendered themselves obnoxious to many of opposite sentiments. Besides many neutral men have been fearful that responding to a distinction unknown to others, and called on and marshalled by their own leaders, they might possibly hold the most dangerous position in a free state, that of a minority ready to turn the beam of political victory as fraud and ambition among their leaders might happen to sway. Even the friend of the foreigner must admit that many ignorant immigrants come yearly among us, and that the education proper for a freeman is not easily acquired after the years of youth. Many, especially among those who do not speak our language, are disposed to form associations among themselves, thus socially, if not politically, dividing themselves from our native population. Another, but less, important consideration comparatively, is that many of these immigrants being left in a state of destitution at the point of debarkation, or overtaken by poverty or disease, become a very serious tax to the community. At this we would not repine, although it appears hard that the land which has reaped the fruit of the strength and prime of the laborer's years should send him forth to be fed from the bread of another people.

It is then a question, acknowledged by all to be of the utmost importance, to ascertain, clearly, the amount of the foreign element in the United States. If the clamor on this subject is ill founded let us dismiss it from our minds, and if on the other hand poverty, ruin and

anarchy, are like a pest to follow in the track of these increasing myriads, it is time to establish a *cordon sanitaire*. We do not know of any estimate, previous to those of Mr. Chickering's, found on reliable data, and we hasten to present to our readers some of that gentleman's results. The foundation is the custom house returns of the number of foreign passengers from 1820.

Years.	Total.	Years.	Total.	Years.	Total.	Years.	Total.
1820-21	5,993	1827-28	26,114	1834-35	52,899	1841-42	101,107
1821-22	7,329	1828-29	24,459	1835-36	62,473	1842-43	75,159
1822-23	6,749	1829-30	27,153	1836-37	78,083	1843-44	74,607
1823-24	7,088	1830-31	23,074	1837-38	59,363	1844-45	102,415
1824-25	8,532	1831-32	45,287	1838-39	52,163	1845-46	147,051
1825-26	10,151	1832-33	56,547	1839-40	84,146	1846 (1 qr.)	55,106
1826-27	12,418	1833-34	65,335	1840-41	83,504	.....	.....

RECAPITULATION.

Years.	Total.	Years.	Total.	Years.	Total.	Years.	Total.
1820-25	35,691	1835-40	336,228	1820-30	135,986	1820-46	1,354,305
1825-30	100,295	1840-45	436,792	1830-40	579,370	Proportion,	100
1830-35	243,143	1845-46	202,157	1840-46	638,949	.....	.....

These returns ought to be increased by the numbers who land in the British Provinces and find their way to the United States. The estimate, of Mr. Chickering, of an increase in this way of 50 per cent to be added to the custom house returns, would furnish a table in which the annual foreign increment is compared with the whole increase.

Proportion of Foreign Immigrants to the Increase of the Population of the United States.

FOREIGN PASSENGERS.

Years.	Population.	Average Annual Increase.	Custom House.	Elsewhere.	Total.	Per cent.	Proportion.
1820-21	9,638,191	282,465	5,993	2,996 $\frac{1}{4}$	8,989 $\frac{1}{4}$	3·18	1 to 31·43
1821-22	9,920,656	290,743	7,329	3,664 $\frac{1}{4}$	10,993 $\frac{1}{4}$	7·78	26·45
1822-23	10,211,399	299,264	6,749	3,374 $\frac{1}{4}$	10,123 $\frac{1}{4}$	3·38	29·57
1823-24	10,510,663	308,035	7,088	3,544	10,632	3·45	28·98
1824-25	10,818,698	317,062	8,532	4,266	12,798	4·03	24·78
1825-26	11,135,760	326,354	10,151	5,075 $\frac{1}{4}$	15,226 $\frac{1}{4}$	4·66	21·46
1826-27	11,462,114	335,919	12,418	6,209	18,627	5·54	18·04
1827-28	11,798,033	345,763	26,114	13,057	39,171	11·32	8·83
1828-29	12,143,796	355,897	21,459	12,229 $\frac{1}{4}$	36,688 $\frac{1}{4}$	10·30	9·71
1829-30	12,499,693	366,327	27,153	13,576 $\frac{1}{4}$	40,729 $\frac{1}{4}$	11·11	9·00
1830-31	12,866,020	368,914	23,074	11,537	34,611	9·38	10·66
1831-32	13,234,934	379,491	45,287	23,643 $\frac{1}{4}$	67,830 $\frac{1}{4}$	17·90	5·59
1832-33	13,614,425	390,373	56,547	28,273 $\frac{1}{4}$	84,820 $\frac{1}{4}$	21·72	4·61
1833-34	14,004,798	401,565	65,335	32,667 $\frac{1}{4}$	98,002 $\frac{1}{4}$	24·40	4·10
1834-35	14,406,363	413,082	52,899	26,489 $\frac{1}{4}$	79,388 $\frac{1}{4}$	19·21	5·21
1835-36	14,819,445	424,925	62,473	31,236 $\frac{1}{4}$	93,709 $\frac{1}{4}$	22·05	4·54
1836-37	15,244,370	437,109	78,083	39,041 $\frac{1}{4}$	117,124 $\frac{1}{4}$	26·79	3·74
1837-38	15,681,479	449,642	59,353	29,681 $\frac{1}{4}$	89,044 $\frac{1}{4}$	19·80	5·05
1838-39	16,131,121	462,535	52,163	26,081 $\frac{1}{4}$	78,244 $\frac{1}{4}$	16·91	5·92
1839-40	16,593,656	475,798	84,146	42,073	126,219	26·52	3·77
1840-41	17,069,454	489,441	83,504	41,752	125,256	25·59	3·91
1841-42	17,558,895	503,474	101,107	50,553 $\frac{1}{4}$	151,660 $\frac{1}{4}$	30·12	3·32
1842-43	18,062,369	517,911	75,159	37,579 $\frac{1}{4}$	112,738 $\frac{1}{4}$	21·76	4·60
1843-44	18,589,280	532,761	74,607	37,303 $\frac{1}{4}$	111,910 $\frac{1}{4}$	21·05	4·77
1844-45	19,113,041	548,037	102,415	51,207 $\frac{1}{4}$	153,622 $\frac{1}{4}$	28·03	3·57
1845-46	19,661,078	563,752	147,051	73,525 $\frac{1}{4}$	220,576 $\frac{1}{4}$	39·12	2·56
1846 3d qr.	.....	.....	55,106	27,553	82,659	.....	.....
Total 26 yrs.	.....	.....	1,354,305	677,152 $\frac{1}{4}$	2,031,457 $\frac{1}{4}$	.....	.....

RECAPITULATION.

Years.	Population.	Average Annual Increase.	FOREIGN PASSENGERS.			Per cent.	Proportion.
			Custom House.	Elsewhere.	Total.		
1820-25	51,099,607	1,497,569	35,691	17,8454	53,5364	3.57	1 to 27.98
1825-30	59,039,396	1,730,260	100,295	50,1474	150,4424	8.69	11.51
1830-35	68,126,540	1,953,425	243,142	121,571	364,753	18.67	5.36
1835-40	78,470,071	2,250,009	336,228	168,114	504,342	22.41	4.47
1840-45	90,384,039	2,591,624	436,792	218,396	655,188	25.28	3.96
1845-50	19,661,078	563,752	147,051	73,5254	220,5764	39.12	2.56
1820-30	110,139,003	3,227,829	135,986	67,993	203,979	6.31	1 to 15.83
1830-40	146,596,611	4,203,434	579,370	289,685	869,055	20.67	4.84
1840-46	110,045,117	3,155,376	583,843	291,2244	875,7644	27.75	3.63
Total 25 3-4 years.	366,780,731	10,586,639	1,299,199	649,5994	1,948,7984	18.40	5.44

Assuming the rate of increase of the whole white population of the United States to be 26.28 per cent in each decade from 1790, 28.80 per cent in the free, and 21.54 in the slave states; we have

	1790.	1800.	1810.	1820.	1830.	1840.
Free States, - - -	1,901,046	2,448,667	3,154,038	4,062,600	5,232,825	6,740,209
Slave States, - - -	1,271,488	1,545,470	1,878,490	2,283,269	2,775,270	3,373,288
Aggregate, - - -	3,172,534	3,994,137	5,032,528	6,345,869	8,008,095	10,113,497
Differences, - - -	- - -	2,290	26,978	43,515	60,722	76,188
Original States and Territories, -	3,172,534	3,996,427	5,059,506	6,389,384	8,068,817	10,189,685
Add Louisiana, - - -	- - -	- - -	34,311	41,704	50,691	61,622
Add Florida, - - -	- - -	- - -	- - -	- - -	18,385	22,347
Total, - - - - -	3,172,534	3,996,427	5,093,817	6,431,088	8,137,893	10,273,654
For'n Immigration - - -	- - -	307,678	768,187	1,430,906	2,399,485	3,922,152
Total White Population U. S. -	3,172,534	4,304,105	5,862,004	7,861,994	10,537,378	14,195,806

Assuming 267,567 as the foreign population in 1790, and consider their increase to be at the average rate of 26.28, we have

	1800.	1810.	1820.	1830.	1840.	
Foreign Im- migr'n fin	1790 to 1800,	267,567	337,996	426,838	539,031	680,714
"	1800 to 1810,	- - -	363,001	458,415	578,908	731,073
"	1810 to 1820,	- - -	- - -	494,392	624,342	788,449
"	1820 to 1830,	- - -	- - -	- - -	665,647	840,611
"	1830 to 1840,	- - -	- - -	- - -	- - -	888,705
Differences, - - - - -	267,567	700,997	1,379,645	2,407,928	3,929,552	
	-40,111	-67,190	-51,261	pl's 8,443	plus 7,400	
Total For'n Popula. in U. S.	307,678	768,187	1,430,906	2,399,485	3,922,152	

By comparing these tables we find that a probable amount of four millions of our population are due to the immigration of foreigners, for the last fifty years. In other words, had immigration been stopped, our population would be at this time, other things being equal, about sixteen millions of souls. A nearer approximation is considered to be

		Proportion per cent. of the Foreigners to the increase of Total the whites. wht. popul.
583	Foreign immigration from 1790 to 1800, including the immigrants and their children, from their arrival to the next census, - - - - -	307,687 27.18 7.14
484	Their natural increase at the rate of 26.28, &c. per cent. in 10 years, - - - - -	80,872
363	Foreign immigration as above, from 1800 to 1810, - - - - -	379,637 24.36
541	Foreign population in 1810, - - - - -	768,187 - - 13.10
the	Their natural increase at the above rate, in 10 years, - - - - -	201,916
80	Foreign immigration as above, from 1810 to 1820, - - - - -	460,803 23.01
209	Foreign population in 1820, - - - - -	1,430,906 - - 18.26
288	Their natural increase at the above rate, in 10 years, - - - - -	376,110
497	Foreign immigration as above, from 1820 to 1830, - - - - -	592,469 22.04
188	Foreign population in 1830, - - - - -	2,399,485 - - 22.77
385	Their natural increase at the above rate, in 10 years, - - - - -	630,699
22	Foreign immigration as above, from 1830 to 1840, - - - - -	891,968 24.32
47	Foreign population in 1840, - - - - -	3,922,152 - - 27.62

But surely, although our numbers would not have swelled to their present by four millions, had it not been for foreign immigration, we cannot consider this as representing at all the number of true foreigners, allowing that all born without our territorial limits are foreign in heart to our commonwealth. Many of these foreigners, and these sons of foreigners, have married the daughters of America, and shall the children of an American mother be thus considered as foreigners; this in our opinion is an entirely erroneous system of calculation. The increase of the foreign population, even that portion, which embraces the children of foreigners on both father and mother's side, is in every sense American, and the proper course to determine the foreign element, is, casting out of view the progeny, to enquire how large a population of foreign birth is now living in the United States. Assuming the average age of this population to be 25 years, and the ratio of mortality to be the mean of these tables, in England, from which country the largest proportion of the new comers emigrate, and striking out of view the increase by birth, we have as the surviving number of the foreign immigration in 1840—a result as below.

	Estimated Number of Emigrants.	Surviving in 1840.	Surviving in 1846.
1790 to 1800	267,567	82,154	50,570
1800 to 1810	363,001	177,853	137,801
1810 to 1820	494,392	317,408	274,299
1820 to 1830	665,647	530,018	468,388
1830 to 1840	888,705	831,129	757,754
1840 to 1846	875,764	.....	842,660
		1,938,562	2,431,472

If we are correct in our opinion, and we believe that the most enthusiastic partisan will not consider the children of foreigners, born on this soil, as any other in feeling and sentiment than the progeny of native citizens, we have presented a result approximating nearly to the number of persons born in other lands and living in the United States during the year 1846, and comprising all who, in any proper sense, can be regarded as the true foreign element in our population.

Considering the ravages of disease among the large class of poor and improvident immigrants, and the fatigues of the voyage hither and subsequent travel, together with the mortality incident to settlers in a new country, and one differing much in climatic character from that of their birth; the deductions made from the gross number of estimated arrivals are probably below the truth; and the number of persons now residing in the United States may possibly not much exceed two millions. Of this number, according to Dr. Chiekering, two-thirds may be regarded as males, and a very large portion, even at the time of immigration, is adult. Of course, the survivors of all the years of immigration prior to 1830 must be set down as adults. So that the proportion of adults to children may be, say, three to one. One half of the whole population surviving in the year 1846, may be seen to consist of those who emigrated to this country prior to the year 1835. This is a portion that, from their mature age and acquaintance with the institutions of our country, besides the possession of comparative wealth, must exert a great influence in forming the social character of more recent comers. They are, so to speak, a vast teaching class, dispersed over the whole country, advising the inexperienced and checking the rash among their countrymen. But, it is not our purpose to look at any arguments that concern the political aspects of the question. If we have alluded to any, it was merely to call attention in this way to the acknowledged importance of the enquiry, and then treat it in a purely economical and statistical manner. The value of this population, as workers, is worth a moment's consideration. The estimated number of the inhabitants of the United States in 1846, was 20,557,823, as by reference to the article on the "Progress of the American Union," in our last No., derived from the investigations of Wm. Darby, Esq. The Secretary of the Treasury gives as the sum total of the productions of the country, for the year included in the report of 22d July, 1846, reckoned in dollars, an aggregate of \$3,000,000,000. The amount of individual average production is as near as may be, \$150 in one year. It must be remembered that, of the foreigners, a larger proportion than the average are adult males; and of these more than the usual number comparatively belong to that class most actively employed in physical production. If

we assume but two millions as the number of the foreign population, their aggregate annual production is the vast amount of \$300,000,000, for 1846. In dwelling on the necessity and value to a country of the working class, we would not depreciate the importance of the managing and directing class; but, we say, that as the former are measured in importance by number, the latter are estimated in reference to enterprise, skill and science. A skilful foreman or overseer may wield as easily, and direct the physical forces of one hundred, as easily as ten laborers; and though cultivation and intelligence are to be desired in the one who labors with his hands, they are not so indispensable as in the labors of contrivance and management.

In conclusion, we must express the obligations due to the author of the pamphlet alluded to in this article, Dr. Chickering, who has furnished us a copy, and gives many interesting notes in a private letter to our address.

Art. VI.—MC'CULLOH'S REPORT ON SUGAR—REVIEWED.*

COMPARATIVE CONDITION OF SUGAR ESTATES IN WEST INDIES AND LOUISIANA—PROGRESS AND PERFECTION OF SUGAR MANUFACTURE, ETC., ETC.

J. D. B. DE BOW, Esq.,

It is but lately that I have been put in possession, through the kindness of a friend, of a copy of Professor McCulloh's report to Congress on saccharine substances and the art of manufacturing sugar. It is, in my opinion, one of the best documents which has ever been written on the subject. It makes known and describes generally, with great accuracy, all the latest and best improvements which have been made throughout the world in the sugar industry, and embodies an amount of useful information, which our sugar planters could not otherwise obtain without perusing a great many volumes. It is the work not only of a man of science, but of a conscientious one, who has represented things as faithfully as he could and without any kind of deception.

Mr. McCulloh paid unfortunately but a flying visit to Louisiana, where he could not arrive during the sugar making season; he remained only a few days in the State, occupying himself chiefly, as he says, with inquiries concerning Rillieux's improved method, and an examination of his apparatus upon the plantation of Messrs. Benjamin

* That the reader may discover the vast quantity of material which we have from time to time collected and published upon sugar and the sugar manufacture, we will only refer him to our back volumes. We know of no other source from which a tithe as much could be obtained. Should not every one, then, in any degree interested in this important staple, sustain with liberality the enterprise we have conducted at so much expense and labor. We had hoped for the unanimous support of the sugar planters at least. See Commercial Review, vol. I, 53, 54, 380; vol. II, 322, 212, 214, 267, 422; vol. III, 118, 231, 245, 580, 294, 299, 301, 341, 371—395, 421; vol. IV, 41, 129—157, 296, 393, 426, 427—447, 514; vol. V, 44—57, 81, 86, 181, 183, 187, etc., etc.

& Packwood. This is to be regretted, not only because we have been thereby deprived of the researches which the professor had the intention of making on the mucilage contained in the Louisiana cane juice, but also because, having seen very few of our sugar plantations, and none of them in operation, he has not had an opportunity of doing to the old sugar planters of the country that justice which they certainly would have obtained from him, if he had known more about them.

It is in order to destroy the unfavorable impression which some parts of the report may create against the progress hitherto made in our sugar industry, and also for the purpose of rectifying a few errors, which have crept in that otherwise unexceptionable work, that I would wish to see it reviewed in your useful periodical. I do not attempt it myself, because I am not in the habit of writing for the public; but I hope that the notes and suggestions which you will find in this communication, will induce you to undertake that task.*

Speaking of his journey from Havana to Guines and back, Mr. McCulloh says: "The well managed sugar estates (furnished with highly "finished and costly machinery) which I visited, and which had each "required, on an average, an investment of not less than two or three "hundred thousand dollars in fixed capital, had entirely dispelled from "my mind all preconceived notions derogatory to the enterprise and "intelligence of the Spanish Creole; though under an oppressive gov- "ernment, and, compared with that of a Louisiana planter, enjoying "all the blessings of political freedom, exempt from heavy taxes, and "protected against foreign competitions by a high tariff." And after mentioning several improvements on a plantation in Cuba, he adds: "Such estates constitute exceptions, however; while for a very "large number, the arrangements and methods described by the author "of the *Histoire Naturelle du Cacao et du Sucre*, published in 1720, "the oldest treatise I have seen on the subject, would answer almost "as well for this day as that in which he wrote. And this remark, I "am sorry to say, is applicable equally to the State of Louisiana and "to the West India Islands; the use of the steam engine to grind "the cane and the substitution of the mill with horizontal in place of "that with vertical rollers, being almost the only improvement exten- "sively introduced." (pp. 9, 38.)

It so happens that, in the beginning of 1845, my neighbor, Mr. Lapice and myself took a journey through Cuba, for the special purpose of ascertaining whether there was in the island any improvement in the sugar manufacture of which we might avail ourselves. In our visit to Guines, we discovered nothing, either in the general management of the sugar estates, or in the buildings and improvements, which deserved peculiar praise. The mistake of Mr. McCulloh as to the value of the improvements in that neighborhood, has probably originated from his not being in the habit of seeing sugar estates and of estimating the cost of the improvements thereon. The Inganio La Amistad, which does not belong to Mersrs. Hiago, as it is stated (page 63) but to their sister, the Widow Ayestaran and her son, was the only estate in that part of the island which had improvements of

* There is no man in Louisiana better qualified to review the report of Mr. McCulloh than M. Valcour Aime. In such hands we freely leave it.

any great value ; one of Derosne's apparatus having been put up there the year previous. Mr. Ayestaran may, to prevent competition, have been disposed to exaggerate its price, for I know that it was currently reported in Guines that fifty thousand dollars had been paid for it ; but, as I made it my business to ascertain for what sum a similar apparatus might be obtained, I also know that the price in Europe was \$18,000 ; and I do not presume that the expenses of all kinds, to bring it on the plantation could exceed \$5,000, as no duty was to be paid on machinery imported into the island ; so that the apparatus in Guines did not probably cost more than \$25,000. The buildings on the Amistad were extremely common, and so are, with very few exceptions, most of the sugar houses throughout the island. If the sugar estates which the professor has seen near Guines had each required, on an average, as he was made to believe, an *investment of not less than two or three hundred thousand dollars, in fixed capital*, our Northern fellow citizens might well have asked why we complain for not getting four cents for our sugars, when the people of Cuba can afford to give theirs for two cents, after undergoing such enormous expenses. The fact is that the improvements and buildings on our plantations are more valuable, better constructed and generally much more lasting than theirs. The slaves by which their canes are cultivated are, in spite of the suppression of the slave trade, imported from Africa, at a cost which, on an average, does not exceed for each, the price in Louisiana of a good pair of mules. The climate permits these slaves to be worked with as few clothes as they were in the habit of wearing in their native country. A patch of bananas, which when once planted gives every year a new crop from the sprouts, is all the feeding they require ; whilst our slaves are generally, at least, as well fed and clothed as laborers are in Europe. Canes, in Cuba, ripen during fourteen or eighteen months and require no plowing, no ditching and hardly any weeding ; their ratoons last fifteen and twenty years. Here, after having tilled our soil in a manner that no farmer in the United States would be ashamed of, we must get sugar out of our canes, on an average, eight months after they have come out of the ground, and we must replant every second year. They grind six months in the year ; we can hardly calculate on half that time to get through our crops, and must, therefore, manufacture our sugar twice as fast as they do theirs. With all these disadvantages on our side, and many more which it would be too tedious to mention, our planters make fully as many pounds of sugar to the working hand as can be made in Cuba. This shows conclusively to my mind, that we are not in the arrear, as Mr. McCulloh seems to think. There is no branch of industry in the United States for which more money is expended every year, in experiments, than for the sugar manufacture of Louisiana. If methods are adopted which may in many respects be considered faulty, it is not because our planters know no better, but because they are compelled by our climate to adopt the most expeditious means of operation. The great question with us is not how to make the finest sugar and how to make the most of it, but how to make it fast enough ; we know that frost may soon prevent us from making any at all. This is the reason which has prevented the planters of Louisiana from adopt-

ing generally the improved processes for making sugar; most of the ameliorated machinery operates too slowly to save our crops, and the perfected apparatus which are not liable to that fault, are within the reach of very few fortunes. Although on account of our working more and better than the Cuba planters, we make as much sugar as they do. Mr. McCulloh might have perceived, if he had staid longer among us, that the first cost of the sugar must be about twice as much in Louisiana as it is in Cuba. It is perfectly true, as he says, that we enjoy the blessings of a better government; but among the advantages which he enumerates as flowing from that government, he might very well have left out in a report printed in 1847, the protection against foreign competition by a *high tariff!* That protection is now hardly three-fourths of a cent per pound, and with that help we have to contend not only against the West India Islands, but also against the Northern refineries. It is to compete with these last, as well as with the Cuba planters that the improvements made of late years in the sugar industry may be rendered available. We cannot, in my opinion, make profitably from the cane juice double refined sugar equal in whiteness and beauty to that made at the North; but what is the use of the superior whiteness when it creates no increase in the demand? I am now making stamp loaf sugar of three pounds, which is worth from seven to nine and a half cents a pound, the average being about eight cents; and I can sell one hundred barrels of the quality quoted at eight against ten of that at nine and a half cents. With one of Derosne's or Rillieux's apparatus the Louisiana planter instead of getting from three to four cents for his brown sugar, may get for it five or six; for, when I say that I obtain, on an average, eight cents for my white sugar, it must not be understood that I can make by means of the apparatus as many pounds of white sugar as by the usual process could be extracted in brown sugar from the same cane juice; the yield of white sugar is of course smaller, but the increase in price is more than a compensation for the diminution in the quantity. In other words, the same cane juice which, by the usual process, would yield a hundred thousand pounds of brown sugar, which, at four cents, would produce four thousand dollars, will, by means of the apparatus, give white sugar of different grades, for which from five to six thousand dollars may be obtained. This is certainly a handsome compensation for the additional trouble and the additional investment. It must, however, be understood as applying only to a well managed apparatus: for we had instances during the last season of planters doing worse with the new improvements, than with what Mr. McCulloh calls the old and faulty method.

At page 22 we find the following remarks: "It was my intention to have devoted particular attention to the mucilage stated to be in Louisiana cane juice, often in quantity so large as to give great trouble to the sugar-boilers; and I regretted the circumstances which impeded my journey thither more on that account than any other; but I now attach less importance to the subject, for it has been shown by Messrs. Benjamin & Packwood that the use of boneblack and of evaporation in vacuo gives perfect results. Some planters had, I am told, entertained the opinion before that boneblack could not be used

"for purifying the cane juice of Louisiana; an opinion doubtless, based upon unskillful experiments."

Boneblack has been used successfully on my plantation, for decolorising and purifying cane juice, ever since 1840. It is not every year that the mucilage in our cane juice is a source of annoyance to the planters. In favorable years, when the canes are ripe and the juice weighs 9° Baume, and sometimes more, the mucilage gives very little trouble and prime sugar can easily be made. But in unfavorable seasons and in canes raised in new lands, the juice gives sometimes from 6 1-2 to 7° and mucilage is found in large quantities; part of it gets burnt before the sugar can be brought to the striking point, and none but a red and inferior sugar can be obtained by the common process. It is in those years and in these circumstances that boneblack filters are extremely valuable.

Discussing the importance of grinding at low speed, the report gives the results of experiments made by the Marquis de Ste. Croix, a planter of the Island of Martinique, who states that "with the same mill, and its rollers set in the same way, the juice obtained constituted 45 per cent. of the weight of the canes ground when the rollers made six revolutions a minute, and 70 per cent. when the velocity was two and a half revolutions per minute; a difference of 25 per cent." (p. 45.)

There is, no doubt, something to be gained by regulating the speed so as to cause the cane juice to flow off before the bagasse has passed through the mill. But there is evidently some exaggeration in the statement of the Marquis. Every practical man can feel that if the number of revolutions made by the rollers could produce a difference of 25 per cent. in the yield of the cane, the planters would soon perceive the necessity of so setting their mill as to make with the same crop, five instead of four hundred hogsheads. Four revolutions in a minute with rollers of 28 inches diameter, is quite slow enough; the gain by slower motion must be a trifling one. As far as my experience goes, I have seen ten cart loads of good cane yield a thousand pounds of sugar, and I never perceived that the result was materially changed when the mill made one or two revolutions in a minute.

After acknowledging the purity of the sugars refined by the large establishments in the United States, the professor observes: "In the refinery of G. S. Lovering & Co., a process is employed for the clarification peculiar, I believe, to that establishment, which has been communicated to me confidentially, and which I consider perfectly unexceptionable; neither alum, bullock's blood, nor any other objectionable substance being there used for clarification in making sugar absolutely pure and of extreme whiteness and beauty." (p. 51.)

Messrs. G. S. Lovering & Co., are not the only ones in possession of that process. Ever since 1834, I have been clarifying without alum and without blood, or any noxious ingredients: the sugars of these gentlemen may generally surpass mine in color, but I can at least claim an equal purity.

After having mentioned the importance of preventing fermentation in saccharine juices, its effects on our canes are thus noticed: "In Louisiana when the cane has been exposed to severe frost, followed by warm weather, the juice, it is said, becomes acid, and so altered

that it is impossible to make sugar from it in the ordinary way. In defecation it becomes mucilaginous and ropy, and yields not a particle of crystalline sugar. Do not the changes of temperature cause the cellular tissue of the cane to be ruptured, and thus bring together the nitrogenous matter and the saccharine juice under circumstances which excite viscous or lactic fermentation? I may here add, that during the last year, excellent sugar is said to have been made by Messrs. Packwood, Benjamin, and C. Degruy, by the use of the Rillieux's Apparatus, from acid, frosted cane juice, which, by the ordinary method would, it is stated, have yielded molasses only." (p. 65.)

It is true that fair sugar can be extracted from frosted canes, by means of bone black filters and the vacuum pan, when only a very inferior article could be obtained by the common method. The canes, when frost-bitten, can thus be rendered profitable for a few days longer. This is not, however, the peculiar advantage of Rillieux's process; the same result can be obtained by means of Howard's, Roth's, Derosne's, or any other system for evaporating in *vacuo*. I have seen at Mr. Lapice's, sugar of a good color and grain, made by Derosne's Apparatus, which was so very sour as to excite a disagreeable sensation on the tongue; when the sugar was drained the acidity disappeared, because it was confined to the uncrystallized part. But after the deterioration of the canes has so far progressed that the juice, when boiled in open pans, produces in the battery or teache nothing but a viscous syrup of fine yellow color, from which, by the common process, not a particle of grain can be obtained, I contend that no apparatus can crystallize it. In the winter of 1845-6, the pneumatic pans or tigers constructed by Rillieux on Messrs. Benjamin and Packwood's plantation having completely failed, those gentlemen, to save their canes, had to work the whole of their crop into syrup, which, afterwards, was manufactured at Mr. Oxnard's refinery. I have there seen in that refinery, syrup manufactured from frosted canes by Rillieux's Apparatus, from which nothing could be made; other syrup coming from canes less deteriorated, produced sugar resembling common wax, while all the syrup obtained by the same means, previous to the canes being frosted, or before the juice was quite altered after the frost, has produced in the same year and at the same refinery, sugar of the very first quality. It is much to be regretted, that Mr. McCulloh had no opportunity for examining the phenomena which present themselves successively during the process of the fermentation of our cane juice. I have seen nowhere clearly explained why frosted cane juice, from which good sugar can be produced for several days, even when sourness is quite perceptible to the taste, ceases to granulate, sometimes in the space of a very few hours. In the paragraph quoted above, the Professor seems to intimate that acids of different kinds may be generated in the course of fermentation, and he is probably right. I am no chemist, but I have learnt from one who has turned much of his attention to the manufacture of Louisiana Sugar, that whilst there are acids, such as the hydrochloric, the lactic, the citric, &c., which prevent granulation, the acetic acid is so far acting against it that some confectioners use vinegar to aid the crystallization of rock candy.

The thermometer is recommended in the strongest terms, as the

best, and, indeed, the only means of obtaining definite and precise knowledge in reference to the evaporation of concentrated syrups: "The thermometer is used for the determination of this striking point only by those who boil in *vacuo*, and by a few who employ open pans; and most of the sugar manufacturers depend entirely upon certain signs or appearances which become familiar to the workmen by practice." (p. 100.)

In the next page he declares that he is quite sceptical in reference to the force, and even the honesty of the objections, urged against the use of the instrument, which furnishes a ready and perfect means of knowing whether the concentration approaches the striking point. He ascribes these objections to the prejudices of ignorant workmen employed in the manufacture of sugar, which, as he says, "has been confided chiefly to negroes, and scarcely less stupid and ignorant white men." (p. 101.)

The thermometer is advantageously and generally used, to judge of the state of concentration of the syrups, in open evaporating pans, heated by steam, but the use of that instrument to ascertain the striking point in the manufacture of vacuum pan sugar is a practice not to be thought of. Syrups coming from the blow tubs and leaf filter at 32 deg. Beaume, is often at 150 deg. Fahrenheit, when put in the pan. It rises in fifteen minutes to 160 deg., and may be kept at that point for several hours, until it reaches the proper degree of evaporation; indeed, if the boiler has at his disposal a large supply of water, he may, by the injection of cold water, lower the temperature while the concentration is progressing, and this is commonly done when it is considered desirable to obtain a large and solid grain. The thermometer is employed in the vacuum pan to keep the boiler advised of the heat he has in it, and enable him, in conjunction with the air glass or barometer, to regulate his pan as to steam and water, for striking the test by the touch with the proof stick is the only one that can be depended upon.

The sugar made by Messrs. Benjamin and Packwood is noticed in the following words: "A specimen of this sugar presented to me by Messrs. Merrick and Towne, has been analyzed by me, and found to be *chemically pure*. Its crystalline grain and snowy whiteness are also equal to those of the best double-refined sugar of our northern refiners. To Messrs. Benjamin and Packwood must, therefore, be awarded the merit of having first made directly from a vegetable juice, sugar of absolute chemical purity, combined with perfection of crystal and color. This is indeed a proud triumph in the progress of the sugar industry. In the whole range of chemical arts, I am not aware of another instance in which a perfect result is in like manner obtained immediately." (p. 121.)

I am so far from being disposed to detract any thing from the merit of Messrs. Benjamin and Packwood, that I would not have the least objection to their being represented as having originated a most important improvement in the manufacture of sugar, if the old planters of the State were not thereby cast rather too much in the shade. The stay of Mr. McCulloh in the State was, as I observed before, so very short that he had no time to become well acquainted with the former

situation of our sugar industry, and the various successful steps that have been taken to improve it. It is no doubt on that account that he has in the different parts of his Report alluded somewhat unfavorably to our improvements.

It is not of late years only, that white sugars, derived from the cane juice, have been made with more or less success in Louisiana. As far as I can remember, and I am no longer a young man, I recollect to have seen white clayed sugar made on many of our plantations, for home consumption at least, by the same operation which, in Cuba, is carried on, on a large scale. Another grade of sugar was made about eighteen years ago by Mr. T. Morgan, who, as the report correctly states, was the first to introduce the vacuum pan in this country for the evaporation of cane juice. A few years afterwards he obtained by liquorizing in moulds, without the use of bag filters, good white sugar. Neither filters nor defecators were employed in connection with Rillieux's apparatus, when Mr. Packwood, in the winter of 1843-4, made with it about thirty hogsheads of sugar. In the succeeding season defecators and bone black filters having been added to the same apparatus, prime brown sugar was obtained, without any refining process, on the same estate. The specimen of sugar so highly eulogized by the report, was produced in the winter of 1846-7, on Messrs. Benjamin and Packwoods' plantation, by using Rillieux's perfected apparatus, and liquorizing the sugar in tigers.

Although it may look like egotism for me to say so, yet I cannot avoid remarking that since 1834 I have been making clarified, stamp, and loaf sugar, directly from a *vegetable juice*, and that since 1840, when I first used bone black filters, my sugar has been at least equal for purity, as well as perfection of crystal and color, to that manufactured in 1846-7, by Messrs. Benjamin and Packwood.

As it may not be uninteresting to be informed of the different trials of one who has some claim to be considered here as the pioneer in refining sugar from the cane juice, permit me to state that, after having attempted, without success, some expensive experiments for making white sugar in 1830, I tried, in connection with a common set of kettles, in 1832 the bascule pan, and in 1833 the serpentine tub, and ascertained that, with good canes, no definite advantage can be derived from either. In 1834 I bought moulds, procured the bag filters of Taylor to filter my cane juice when boiled in the common kettles to 30 deg. Baume, ordered from London one of Howard's vacuum pans, from the old makers, William Oaks & Son, and began to refine. It would be too tedious to detail the trouble I experienced and the accidents and mistakes from which I had to suffer during that winter; I was so much annoyed that I would certainly have given up my experiments, at least for that year, if my sugar house had not been so altered as to put it out of my power to proceed by the common method. I had to refine or lose my canes. The final result was upon the whole satisfactory, and I not only got through my crop of 340,000 pounds, but bought some inferior sugars from the neighborhood, which I also refined. I obtained 12 cents a pound for my loaf sugar, which was of course inferior to what I make now, since I used no bone black. From 1834 to 1839 inclusive, every one of my crops were worked in

the same way, with the only difference that the experience acquired with every additional year enabling me to understand better how a refinery ought to be conducted, I increased mine and managed it more conveniently. Having heard in 1840 of the filter Peyron, represented as working continuously, and without renewing the bone black, I sent my boiler to Europe, at an expense of eight or nine hundred dollars, to examine and procure it, if found to answer. He came back in time for the crop, not with Peyron's filter, however, but with another on Dumont's plan, which is employed in England. The syrup of that year being first filtered in the bags and passed afterwards over bone black, produced sugar which was fully worth two cents more than that I had previously made. I effected no other important change in my refinery until 1845, when I procured Derosne's apparatus, with some modifications, in the pans and distributions. On account of the air pump having been made too weak, I could manufacture but a small part of the crop of that year, but in the succeeding season I used nothing else, and have since that time ceased to boil my syrup in open kettles. I find that I make by that means still better sugar; although, on account of the quantity now produced, not only in this State, but in the north and west, I get much less money for it.

In the year 1846, Mr. Lapice put up one of Derosne's apparatus, which was, like mine, made at the Novelty Works, New York.

The main difference which can be found between the means employed by me since 1840 for refining, and those Messrs. Benjamin and Packwood used in 1846, consist in this: that those gentlemen liquor their sugars in tigers, while I do so in moulds; but this difference can, of course, create none either in the quality or beauty of the sugars. The only question to be raised between the two processes, is one of economy and of time; in this, practical men may differ. In 1845, after examining, in company with Mr. Lapice, tigers on the plan of those since constructed by Messrs. Benjamin and Packwood, which we found in the refinery of Mr. Adams, near Matanzas, in Cuba, I determined to keep to my moulds, and Mr. Lapice came to a different conclusion. He had tigers made, which worked well in 1846, and he has used them successfully ever since. They can undoubtedly be considered as a valuable improvement, which may be rendered as profitable here as it has been for a great many years in the West India Islands. Sugars may, by that means, be sooner prepared for market, and on that account those who have to put up new establishments for refining ought probably to adopt tigers in preference to moulds; but I do not think that the advantage to be derived from them is sufficiently great to induce those who are already provided with moulds, to give them up.

Art. VII.—THE ZOLL VEREIN.

THE Prussian Commercial League, as it has been named by Mr. McCulloch and other writers upon political science, is the result of the highest sagacity, intelligence and wisdom. Designed for the diffusion of an enlarged commercial system among the many principalities and

States into which Germany is subdivided, it has been found most fully to answer the purposes of its creation by the enlargement of the field of enterprise and the scope of action. Under the state of things which existed previously to the period when this confederation was formed, commerce was fettered in her free thought and jarring interests paralyzed the arms of industry. History assures us that leagues were early established in Germany, with the view of preventing disorder and of securing the smaller States from the encroachments of the larger. The Old Hanseatic League, with a power and influence long acknowledged throughout Europe, is rich in the lessons of experience which it has furnished; and in the purposes and objects of its establishment differs in no material point from the plan proposed for the adoption of the contracting parties to the Zoll Verein, as appears by their Customs Treaty. If the opinion can be sustained, that the object of Prussia in forming the union was a political one, designed for the better advancement of her single interest, weight and influence in the scale of nations, the resemblance must be more clearly manifest. The parallel is not lost in the rapid attainment of power achieved by the Hanseatic League during the period of its existence, though we should deeply regret that the high degree of improvement it had so generally promoted, and to which in no small degree was its decline to be attributed, should produce like results to the existing confederation.

With no unity of political action in the separate bodies composing the Germanic States, a conviction of the necessity of such a union could not be long in forcing itself upon the minds of the people. The arguments which conducted to the establishment of the German Confederation, based upon political interests, and headed by the Austrian Empire, the object of which was avowedly "the maintenance of the independence and integrity of the respective Germanic States," had existed for several years previously. Experience had demonstrated the incapacity of the old Germanic constitution, tottering with age and bearing within it the internal elements of decay, to answer the wants of a people who were beginning to assert their proud claims to the world's high regard and consideration. This was overthrown in 1791 and the Confederation of the Rhine established by Napoleon soon after the battle of Austerlitz. It is not our purpose to travel beyond the limits we have assigned to ourselves to speak of the "historic eccentricities" of Germany, so often imputed to her by the neighboring nations of the continent. Though not properly within the sphere of our subject, we have suffered ourselves thus far to digress, from the too common custom in this country to confound these two leagues, and in the principles which govern the one, to infer results which should more properly attach to the other.

In 1818 and 1819 the first treaty was negotiated by Prussia with the Principalities of Schwarsburg, Sunderhausen and Schwarsburg Rudolstadt, and from this epoch we are to date the history of the League now known throughout the world as the Zoll Verien, and comprising within its broad limits, three-fourths, if not more, of the Germanic States. It was not until 1828 that Ducal Hesse joined the alliance, and three years after Electoral Hesse lent the force of her name and numbers to swell the influence of the Confederation. Its

progress, however, has always been onward in the march of commercial greatness, often leading in measures of reform calculated to awaken the spirit of enterprise and dispel the delusions which have so long restricted the free commerce of nations.

Restrictions upon trade are never so destructive to the rapid progress of a nation in wealth or in greatness as when they are felt in its internal economy. While each State possesses a tariff, a custom house and all the paraphernalia of independent government, it could scarcely be hoped, the most vexatious embarrassments would not impede the bold operations of trade. The peculiar and favorite interests of one section rendered indispensable in the judgment of its rulers the imposition of a tax upon one article which, in another, it would be necessary to admit at a higher or lower duty. And so of prohibitions upon articles the production or manufacture of the different States.

In an article by the writer, on "American Tobacco," in the October No. of the Commercial Review for 1846, this subject was briefly adverted to. We extract the following:

"Though the leading power in the union, Prussia is unable to undertake anything without the sanction of the other States. To carry a resolution, it is necessary that *all* agree. Frankfort-on-the-Main, the least important State of them all, though she may not originate and execute a measure, has at least the power, by withholding her consent, to render inoperative the will of all the others combined."

The following is believed to be a correct list of the German States which compose the Zoll Verien with the population of each annexed.* It may be well to mention incidentally that half a million is computed to be the average yearly increase in the population.

The Zoll Verein is composed of the following sovereign German States:

A.—States which acceded with their whole territory—

		Population at the end of 1843.
1.	The Kingdom of Prussia,	15,471,765
2.	do. do. Bavaria,	4,439,067
3.	do. do. Saxony,	1,757,800
4.	do. do. Wurtemberg,	1,680,798
5.	The Grand Dutchy of Baden,	1,328,255
6.	do. do. Hesse,	834,711
7.	The Electorate of Hesse,	709,834
8.	do. do. Saxe Weimer of Eisenack,	252,833
9.	The Dutchy of Nassau,	412,271
10.	do. do. Brunswick,	256,000
11.	do. do. Saxe Meiningen,	156,930
12.	do. do. Saxe Coburg Gotha,	144,045
13.	do. do. Saxe Altenburgh,	125,342
14.	do. do. Anhalt-Dessau,	62,691
15.	do. do. Anhalt-Berneburgh,	46,929
16.	do. do. Anhalt-Kœthen,	42,106
17.	The Principality of Lippe Detmold,	103,493
18.	do. do. Schwartzburg Rudolstadt,	68,891
19.	do. do. Waldeck,	58,753
20.	do. do. Schwartzburg Sondershausen,	57,909
21.	do. do. Reuss Lobenstein-Ebersdorf,	52,270

* We beg to make our acknowledgments to the "National Intelligencer" for the use we have made of the statistics with which they were furnished from official sources.

22. The Principality of Hohenzollern Sigmaringen,	42,827
23. do. do. Shaufenburg Lippe,	37,733
24. do. do. Reuss-Greitz	33,803
25. do. do. Reuss-Schleitz,	22,613
26. do. do. Hohenzollern Hechingen,	20,143
27. The Landgrave of Hesse Homburg,	21,863
28. The Free Town of Frankfort-on-the-Main,	65,831
B.—States which acceded with only part of their territories—	
1. The Kingdom of Hanover with the county of Hohenstein—the Bailywicks Elbingrode, Polle, Fallersleben, (southern part,) and some parts of the Bailywicks of Gifhorn, Knesebeak, Woltingeroede, Peine, and on the Harz mountains, with the villages of Brockenkraen and Oderbuck,	27,664
2. The Kingdom of the Netherlands with the Grand Dukedom of Luxemburg,	179,904
3. The Grand Dutchy of Mecklenburg-Schwerin, with the villages of Rossow, Netzeband, and Shonebeek,	1,903
4. The Grand Dutchy of Oldenburg with the principality of Birkenfeld,	29,486
	28,548,553

The History of the States forming the Zoll Verein is so full of romantic incident and exciting novelty, that we doubt whether there is a spot which has not been consecrated to some giant achievement in science or wide spread renown in arms. We may certainly then be pardoned should our thoughts become restive under the restraints which the cold and uninteresting speculation upon facts and figures necessarily impose, and occasionally diverge from the plain path of our investigations to repose awhile amid the enchanting scenery which surrounds them. Where is the man with but a spark of "poetic fire," who could bury his mind in the solution of an abstract commercial problem as he journeyed upon the banks of the Rhine;

"And all its thousand turns disclose,
Some fresher beauty varying round."

We may not linger, however, among the scenery which the sunlight of poetry has made radiant with beauty, or longer gaze upon the many castles which are mirrored upon the clear and shining surface of this beautiful stream. The pen of genius has thrown a fascination around her, which time nor memory can ever destroy.

Adieu to thee again! a vain adieu!
There can be no farewell to scene like thine;
The mind is colored by thy every hue;
And if reluctantly the eyes resign
Their cherished gaze upon thee, lovely Rhine!
'Tis with the thankful glance of parting praise;
More mighty spots may rise—more glaring shine,
But none unite in one attaching maize
The brilliant, fair, and soft—the glories of old days.

We proceed now to give such slight account of the various States forming the union as we have been enabled to gather from the very imperfect information attainable upon the subject, previously to an examination of the articles of the Customs Treaty.

Few are ignorant of the fact that not until 1700 did PRUSSIA attain to the dignity of a kingdom. Since that period her power and influence have been augmenting; the rule of Frederick the Great assisted the operation in no slight degree, till we find her at the proclamation of the general peace in 1815, more powerful than she had ever been, by the acquisitions which were made to her of Pomerania, Saxony and the provinces of the Rhine.

For reasons which have already been made apparent, it is exceedingly difficult to ascertain with anything like precision, the commerce of Prussia with foreign nations, and the free intercourse and communication between the States forming the League is scarcely calculated to assist our investigations. Mr. McCulloch experienced this difficulty in the compilation of his great work, "The Commercial Dictionary," regarded as of the highest authority among the ablest writers in all languages. The onerous restrictions which for a long time obstructed the navigation of the Rhine and the Elbe, have, within a few years, been removed, and the most beneficial results are manifest in the commerce of these rivers, while the establishment of steam packets contribute in no slight degree to an improved condition of trade.

The principal seaports of Prussia are Koningsberg, Dantzie, Stettin, Memel, and Stralsund. The proud position which she occupies in the world's eye, both as regards commerce and letters, and the struggles she has made to throw off the iron rule which has for so long a time crushed the hopeful energies of national enterprise, have engendered a spirit of investigation and enquiry, which promises the brightest prospects for the future. In the peaceful pursuits of trade, she is not unmindful of the preparations necessary for a successful defence in war. Hence it has been said, and the remark belongs not to antiquity, that "Prussia is a camp—the nation is an army. It must be extinguished to be disbanded."

In the early ages Prussia was celebrated for its production of *succin* or amber, a most remarkable phenomena, to which no place has been assigned in the empire of nature. To what cause we are to attribute its origin seems not to have been fully established. Its value appears to have been very great, as at an early period the Phoenicians navigated the North Seas in its search. Turkey is at present the staple market for the commodity.* The town of Wittemberg, in Prussia, contains the remains of Luther and his friend Melancthon, while to Eisleben belongs the honor of having given birth to the great Reformer. The Church of St. Andrew and the pulpit from which he menaced the Vatican is still to be seen.

The statistics which we will have occasion to present to the reader in speaking of the trade of the Zoll Verein, will, we think, exhibit in a very clear light the extent of the consumption of sugar and coffee. In this place we would but advert to the fact that beet-raw sugar has been extensively cultivated in Prussia, notwithstanding which, the importation of both these articles are exceedingly large as compared with other countries.

THE KINGDOM OF BAVARIA, with the exception of Prussia, the

* Malte-Brun's description of Germany.

largest power in the League, covers an area of about 6,363,000 acres of ground. The principal products of manufacturing industry next to beer, the consumption of which is so great that it is the occasion of its having been remarked "that when you see a Bavarian peasant not working, you are sure to find him with a can of beer in his hand," are coarse linens, cottons, woolens, leather, paper, &c. In 1835 the first railroad was introduced upon the continent, between Nuremberg and Furth, and though similar projects have been started in other parts of the kingdom, encouraged by the success which attended this enterprise, up to a very late period it was the only one of the kind. There is a canal, however, which connects the Danube with the Rhine, and a steam communication between Ratisbon in Bavaria, and Linz in Austria, established by a joint stock company in 1838. The yearly exports of the kingdom are estimated by Holn at 14,000,000 florins, equivalent to about \$5,400,000 in round numbers.

The imports consist principally of sugar, coffee, spices and dye stuffs, cotton stuffs, silks, woolens and fine manufactures of all kinds, drugs, flax and hemp. The proportion which Bavaria receives of the revenue of the Customs' Leagues is 16.94 per cent. Notwithstanding the marked improvement in the condition of the German States and the enlargement of their commerce through the wholesome and salutary action of the Custom League, these manifestations do not appear to have extended to the Bavarian constitution. In discussing the local relations by which the people are controlled, an able writer upon this subject indulges in the following remarks:

"The English reader will be surprised to learn, that here the number of laborers permitted to reside in town, the number and distribution of trades, the prices of bread and meat, and even the introduction of new machinery are all determined by artificial arrangements, dependent on the calculations and estimates of the Minister of the Interior, and enforced by the institution of passports and of a preventive police!"

We would be disposed to place in the same category the restraints imposed by government upon those who may be disposed to migrate, as the exercise of a refined cruelty, but that a more obnoxious law, in any aspect we may be pleased to view it, is even at this moment staring us in the face. That "*no marriage between people without capital, should be allowed without the previous permission of the poor institutions;*" would, we doubt not, meet the hearty approval of Mr. Malthus, who measures the higher instincts of nature and the nobler feelings of the heart by the cold principles of a political economy, incapable of being exalted above the consideration of dollars and cents.* A long course of dependence upon the government in which the "germ of virtue" is suffocated, to use the language of Mr. Jefferson, could alone have tolerated for so long a period the infliction of this monstrous wrong. At Munich half the births are said to be illegitimate.*

The annual export of cattle from Bavaria is very large, consisting of horses, horned cattle, sheep and hogs. The last is very much esteemed by the inhabitants for food. Nurenburg, a city of consider-

* However high the authority upon which this assertion rests, we are bound to regard the statement as in a measure exaggerated.

able distinction, the birth place of Albert Durer, the painter, is the scene of many discoveries in science. We quote from Malte-Brun:

"Peter Hale invented watches there, Rudolph the drawing plates for iron wire, John Lobsinger air-guns, Christopher Deuner the clarinet, Erasmus Ebener the alloy known by the name of brass, and Martin Behaim the terrestrial sphere, which, without doubt, contributed to the discovery of America."

THE KINGDOM OF SAXONY is one of the most important powers in the League. Early renowned, not more for feats of arms than the extent and value of its commerce, the consideration to which it attained in early time, has been yearly increased. The intelligence which pervades the agricultural population, is the warrant for the high degree of improvement visible in this branch of industry, while the restraints imposed upon commerce in other portions of the world are without their influence here. Hemp and tobacco are successfully cultivated. Leipsic is the capital of the kingdom, and Chemnitz the birth place of Puffendorff. Its constitution and government would furnish a model for the sage legislators of more powerful empires.

According to Dr. Bowring, in his Report on the Prussian Commercial League,* the most important branch of manufacturing industry in Saxony is cotton. The proficiency to which it has attained, is ascribed to the introduction of the potato, which enables the weavers to afford their labor at a cheap rate from the comparative cheapness of food. Between 1830 and 1837, the spinning establishments had increased in number 38, with 490,325 spindles. Efforts are still being made to improve the construction of machinery, and new factories are constantly rising to augment the power and wealth of the kingdom. Printed calicoes are produced at a lower rate in Saxony than in England, though the quality and coloring of the goods are considered to be inferior. In cotton hosiery they are enabled to compete with the British manufacturer in foreign markets, and their peculiar adaptation to this branch of manufacture has ceased to be regarded as at all doubtful. The very small outlay of capital necessary for its encouragement, and the independent position of the laborers, have greatly contributed to its prosperity. The manufacture of linen is another important element in the wealth of the country, in which there were employed in 1837 from 12 to 13,000 looms, and about 3000 persons. The wages paid a weaver per week on linen goods, is from 2s. to 2s. 4d. The manufacture of woolen in Saxony promises the highest results, and though we are led to infer that the Saxons are, as yet, much inferior to the English in this branch, we cannot fail to be struck with their deep solicitude for its encouragement and promotion, as evidenced in the erection of SCHOOLS OF MANUFACTURE at Dresden, Chemnitz, Planen, &c. In all measures of this character, so well calculated to awaken public attention and direct the mind to the contemplation of great issues, the States of the Zoll Verein have, in recent times, been proudly pre-eminent. To Saxony, in an especial degree, has the union been productive of the highest benefit. It opened to her a market for her manufactures, which had previously supported but a sickly and

*As we shall find occasion, perhaps, to draw largely upon the facts embodied in the Report presented to Parliament by Dr. Bowring, we beg to acknowledge our obligations once for all.

languishing existence. This fact is happily illustrated in the Report, a portion of which we extract:

"The progress of the Saxon cloth manufactures in the three years from 1834 to 1837, is stated in an official report to have been greater than in the thirty years preceding! Great improvements have been introduced, not only in the fabric, but in the finish of the woolen goods, particularly by the introduction from the Netherlands of a new steam brushing machine. In 1839 the woolen manufacture employed from 3000 to 4000 looms, which produced about 160,000 pieces of cloth. The Jacquard loom is gradually being introduced."

Leipsic, with perhaps few exceptions, may be considered the greatest literary emporium in the world.

The breeding of sheep form the occupation of a large proportion of the people of Saxony, and it may be questioned whether any other portion of the globe have been more prominent in improving the stock. It has been computed that in 1837 there were 2,000,000 of sheep in the kingdom.

THE KINGDOM OF WIRTEMBERG, one of the secondary States in the German confederation, is divided into four circles, with a population in 1838 of 1,649,839, showing but a slight increase in 1845, as appears by the table furnished in the preceding pages. Its name is derived from a large castle near Stuttgart.

Its manufactures are principally of cotton, wool and linen. The exportation of wines, grain, leather and wood, to France, Austria and Bavaria, form the principal part of its trade. The little village of Laichingen boasts 400 hand looms, producing annually 400,000 ells linen. A uniform system of weights and measures, founded on the decimal division, was early established in the Kingdom. In reference to Wirtemburg, Mr. Loudon, in a letter to Count Lasteyrie, uses the following language:

"From what I have seen of this country, I am inclined to regard it as one of the most highly civilized in Europe. I am convinced that the great object of government is more perfectly attained here than even in Great Britain; because, with an almost equal degree of individual liberty, there are incomparably fewer crimes, as well as far less poverty and misery."

GRAND DUCHY OF BADEN.—For a long period the inhabitants of this State devoted themselves almost exclusively to the pursuits of Agriculture. The natural productions of the soil are corn, barley, wheat, potatoes, flax, hemp and tobacco. Manufactures have been much increased since the accession of Baden to the Prussian Customs' League.

GRAND DUCHY OF HESSE is especially an agricultural country. No extended scale of manufactures can be said to prevail, though silk weaving has, to some extent, engaged the attention of the people. This State holds the ninth rank in confederation.

THE ELECTORATE OF HESSE holds the eighth rank in the German confederation, and is said by Mr. McCulloch to be the most richly-wooded country in Europe, nearly one third of its surface being covered with forest. The best tobacco grown in Germany is produced in this State, besides large quantities of wheat, rye, barley and oats. The principal manufacturing, as well as commercial towns, are Cassel and Hanau. Linen, cloth and yarn, hides, paper, hats, jewelry, sheep skins, iron and steel ware, form the principal articles of export. The imports are of drugs, wine, flax, hemp seed, silk, wool, and woolen fabrics, herrings, horses, cattle, tin, gold, silver and tobacco. To be-

came a grocer, it was previously required that the applicant should be deprived by, bodily infirmity, from pursuing any other employment, but we are of opinion that the constitution established after the revolt in 1830 annulled the restriction.

SAXE WEIMER OF EISENACK, is one of the most important of the minor Saxon States. It is divided into two circles, that of Eisenack being the most prominent in manufacturing industry. The town of Weimer, the capitol of the State, with a population of near 12,000, has been fitly denominated the Athens of Germany. Goethe, Schiller, Herder and Weiland, have consecrated its name in the history of letters. The two first repose on each side of their great patron, the Grand Duke, in the new cemetery attached to the town. It was also the birth place of Kotzebue. We crave the forbearance of the reader while we make an extract in this place from Granville's travels :

"One of the principal objects of notice in Weimer is the *Landes-Industrie-Comptoir*, a vast printing and publishing establishment, in which a great many persons are employed in translating such foreign works as are likely to be read in Germany; and such is the rapidity with which this office is performed, that frequently the translation of a book published in London at the beginning of one month, is in full circulation by the end of the same month throughout Saxony and the Independent States of Germany, from the press of the *Landes-Industrie-Comptoir*."

THE DUCHY OF NASSAU is distinguished more particularly for its agricultural over every other department of industry. Wheat, corn, barley and potatoes, form the chief products, except in the district of *Rheingau*, where almost exclusive attention is given to the vine. The chief branch of manufactures is in metals; linen and woolen cloths; carpets, &c., are woven to some extent, though not on a scale sufficiently large to admit of export. The University of Gottingen has been constituted the high school of the Dutchy.

THE DUCHY OF BRUNSWICK, with that of Nassau, ranks as the thirteenth voice in the German confederation. The agricultural products are corn, of which it is estimated by Vollguth, the yearly average is 575,000 qrs., flax, tobacco, madder and hops. The manufactures are of linen, woolen and hardware. As in Nassau, the University of Gottingen is also the high school of the Dutchy. The spinning wheel was invented here.

THE DUCHY OF SAXE MEININGEN, described by geographers as a "crescent-shaped territory," is dependent upon its forest and cattle as the chief sources of its wealth, though manufacturing in cotton, woolen and hardware is carried on to a limited extent.

The similarity of pursuits in the population of the smaller States obviates the necessity for any more particular description of the sources of wealth than have been furnished in the previous pages. The peculiar position, however, which was occupied by Frankfort-on-the-Maine for so long a period, as a distinct republic in the heart of the German confederacy, to which, even at this time, she has not acceded with her entire territory, must invest her history with peculiar interest in the eyes of other nations. In works of art and the treasured mementoes of an age over which the charm of romance is found to linger, Frankfort is still rich. One of the oldest cities in Germany, it boasts a commerce which entitles it to the high rank of being one of

the four great emporiums for the supply of Germany with all kind of merchandise. We quote from the Report of Dr. Bowring on the German Customs League :

" Its merchants commence business at six or seven in the morning and toil till ten or eleven at night, not having yet attained to that methodical celerity, which in London despatches a hundred times the amount of affairs between, the commodious hours of nine and six."

We may add here, nor in America, where in almost any of the cities of the Union, but in New Orleans particularly, between the hours of 9 and 3, a larger amount of business is disposed of than during a day in London. We speak of transactions in point of numbers, not extent. Carpets, table covers, woolen, cotton and silk stuffs, tobacco, etc., are the chief manufactures of Frankfort. It claims to be the birthplace of Goethe, as it certainly is of the family of Rothschilds. That the first German Gazette should have been published within its walls, attaches to it in our imperfect conception, a far greater and more abiding interest than that it should have given birth to Charles the Bald, or that as early as 794 Charlemagne should have held a Council there.

We might have extended our remarks to far greater length, were we not admonished by the fact, that the time already consumed and the necessity which exists for some general views touching the treaty upon which the League is founded, forbid the indulgence. To the treaty, then, we propose to direct our attention, in the hope of presenting to the reader, in a clear and condensed form, some of the leading principles which it embodies, and to which, in a very important degree, is the large increase in the trade of the German States to be ascribed, as will appear in the tables we are now about to present to the reader :

Statement of several articles, chiefly the products of the United States, imported into the German Zoll Verein in 1845, showing the principal channels by which imported.

Imported by way of	Cotton.					Rice.	Whale Oil.
	Raw Cotton.	Cotton twist and wadding manufactured in G. Brit.	Tobacco in Leaves and Stems.				
The Prussian ports on the Baltic sea	Quintals.	Quintals.	Quintals.	Quintals.	Quintals.	Quintals.	Quintals.
Hamburg, (on the Elbe) - - - - -	24,210	2,652	14,839	103,708	205,931		
Bremen, (on the Weser) - - - - -	211,117	307,680	62,527	30,620	50,455		
The Netherlands, (on the Rhine) - -	78,447	47,515	148,235	13,409	64,801		
Belgium, - - - - -	152,901	94,989	149,639	53,834	118,434		
Havre, via France, into the Grand Duchy of Baden and the Kingdom of Bavaria, - - - - -	47,839	60,359	11,123	15,250	21,606		
	34,874	71,965	16,372	27,248	301		
Total amount of importation, - - -	549,388	585,160	402,735	244,079	461,528		

The articles enumerated in the table above, are chiefly the products of the United States. The amount of cotton twist and wadding manufactured in Great Britain and imported into the Zoll Verein have,

however, been incorporated. Whether the quantities passed through the numerous Custom-Houses, which line the frontier, were imported through Hamburg or Bremen, is not ascertained.

The table which follows sufficiently explains itself:

Statement of several articles, chiefly the products of the United States, imported, re-exported, consumed, and on hand, in the German Zoll Verein in 1845; also the value of the consumed articles, their average prices, rates of duty, and the revenue derived therefrom.

Articles.	Imported.	Re-exported.	Consumed and on hand.					Revenue derived from.
			Quantity.	Average prices at the Hanse-Town.	Value.	Duty per Quint.		
Raw Cotton, - - -	Quint. 549,388	Quint. 105,501	443,887	Dolls. 13.00	Dolls. 5,770,531	Dolls. Free	Dolls.	
Cot. twist and wadding man f'trd in Great Britain, -	585,160	10,857	574,303	26.00	14,731,878	1.38	792,540	
Tobacco in leaves and stems, - - -	402,735	12,346	390,383	4.50	1,756,724	3.80	1,483,460	
Rice, - - - - -	244,079	89	243,990	5.35	1,305,346	1.38	336,710	
Whale Oil, - - -	461,528	24,257	437,271	6.30	2,754,810	0.35	153,050	
Total amount, - - -							2,725,760	

The duty on cotton twist was raised from two to three Prussian dollars in the early part of 1847; equivalent to 69 cents. From this table we discover what has become of the imports exhibited in the one which preceded it, together with other and important particulars regarding their value, rates of duty, &c. The calculations of the value of the imports are based upon the average prices in the Hanse Towns, on their importation into which but 1-2 per cent. ad valorem duty is paid.

We would observe, however, that in consequence of the comparatively moderate duties imposed upon the importations in the Zoll Verein, the exports from the United States have largely increased. It will be seen by the above table, that the consumption of rice is very large, that of raw cotton has been augmented to a great extent, and tobacco finds a larger market in those States from the fact we have already stated. In the Washington *Union* we meet with the following regulations, recently established by the Customs' Union, and as they have particular reference to the articles of which we have just been speaking, tobacco and rice, we submit them for the guidance of those interested in this trade. They are embodied in a letter from "Schwerin, Germany," bearing date 20th October, 1847:

"The tare on a hogshead of tobacco is 12 per cent. If the hogshead should weigh over 12 per cent. for the quantity of tobacco contained in it, the additional weight pays duty at the rate of 5 1-2 Prussian thalers per zoll centner—equal to about \$3 33 cts. per 100 lbs. Hogsheads which contain about 1000 lbs. tobacco weigh, in the aggregate, I have been told—some more and some much less—200 lbs.; consequently 80 lbs. of wood, or hogshead, pays tobacco duty amounting to \$2.68 40-100 cents.

"The tare allowed on rice, in tierces, entering the States of the Zoll Verein, is 13 per cent. It is to the interest of the producers of rice in the United States to be careful that there should be no excess of tare beyond this, inasmuch as they

have a formidable competitor in Holland in the German markets. The Java rice is all imported in bags, upon which a tare of 4 per cent. is allowed in the Zoll Verein. This the Dutch, with their habitual good economy, avoid exceeding."

The difference to the planter may be determined when it is known that, during the year 1846, there was imported into the Zoll Verein 29,000 hhds. tobacco and stems. The extra duty would, therefore, amount to \$77,731 75.

In many of the German States tobacco is successfully cultivated. With the view of exhibiting the peculiar features of the market for our extended trade in this article, we extract from the paper by the writer in the October No. for 1846, to which we have already alluded:

Statement of other colonial articles imported, re-exported, consumed, and on hand in the German Zoll-Verein in 1845, partly products of the United States and partly imported from U. S. Also the value of the consumed articles, their present average prices, rates of duty, and revenue derived from them.

Articles.	Imported.	Re-exported.	Consumed and on hand.			
			Quantity.	Avg'ge prices at the ports of Hamburg and Bremen.	Value.	Duty per quintal.
	Quintals.	Quintals.	Quintals.	Dollars.	Dollars.	Dollars.
Dye-stuffs	525,051	121,901	403,150	5 00	2,015,750	0 12
Potashes	146,399	8,864	137,535	7 00	962,745	0 17
Hides	333,177	18,673	314,504	17 50	5,503,820	free.
Ginger and other spices	10,857	277	10,580	11 20	118,496	4 50
Pepper and pimento	63,622	356	63,266	9 80	639,607	4 50
Cassia and cinnamon	12,414	962	12,152	35 00	425,320	4 50
Coffee	1,076,650	51,562	1,025,088	10 00	10,250,880	4 50
Cocoa	10,550	506	10,044	14 00	140,616	4 50
Tea	8,095	1,577	6,518	87 50	570,325	7 60
Refined sugar	63,243	—	63,343	8 40	531,240	6 90
Half-refl'd sugar (farin)	82,883	235	82,648	7 00	578,536	5 50
Raw sugar for refining	1,495,015	*78,040	1,416,975	5 50	7,793,362	3 45
Oils	218,921	13,768	205,153	10 50	2,154,107	1 15
Indigo	40,854	8,812	32,042	147 00	4,710,174	0 35
Palm, cocoa, spermaceti and mixed olive oils	114,977	1,295	113,682	9 80	1,114,084	0 35
Dried fish	43,197	1,976	41,781	3 50	146,230	0 35
Turpentine	22,303	836	21,467	9 25	198,570	0 23
Lead	102,097	7,391	94,703	5 00	473,615	0 17
Hops	23,624	17,758	5,866	14 00	82,123	1 72
Beeswax	8,875	230	8,025	33 00	284,625	0 35
Total amount	—	—	—	37,853,862	—	11,262,365

"It seems now to be readily conceded that none but desirable or high grades of tobacco find a ready sale in the German markets. Ordinary qualities can scarcely be sold, even at ruinous prices. The color is a very important consideration with the buyer, and atones in a measure for defects as to taste and smell. Too much attention cannot be devoted by our planters to the handling and putting up of their crops, as the production of a better article than the inland German tobacco, is the only thing to increase the sale."

Since the fall of 1846, the articles of wheat, flour, corn meal, rye, and other bread-stuffs; also, provisions, namely: pork, beef, bacon, lard, hams, tallow, butter, cheese, dried fruits, &c., have been imported from the United States in considerable quantities.

* Refined in the Zoll Verein and re-exported.

Comparative statement of the same articles imported and consumed in the Zoll Verein, in the five years from 1837 to 1841, with the quantities consumed and on hand in 1845.

A.—Articles chiefly imported from the United States.		Average per year of the five years, 1837, 1838, 1839, 1840, 1841.			Consumed and on hand in 1845.	Increase in 1845.
Imported.	Re-exp'd	Quintals.	Quintals.	Dollars.	Dollars.	Dollars.
Raw cotton		230,814	50,723	2,601,183	5,770,531	3,169,348
Cotton twist and wadding manufactured in Great Britain		382,629	29,745	9,174,984	14,731,878	5,756,894
Tobacco in leaves and stems		226,136	29,785	883,580	1,736,721	873,146
Rice		120,634	178	644,439	1,305,346	660,907
Whale oil		259,925	14,746	1,544,628	2,734,810	1,210,182
B.—Other colonial articles, partly imported from the United States.				\$14,848,814	\$26,519,289	\$11,670,475
Dye stuffs		433,836	92,802	1,705,170	2,015,730	310,580
Potash		144,729	27,210	822,633	962,745	140,112
Hides		176,147	23,465	9,671,935	5,503,820	2,831,885
Ginger and other spices		13,915	807	146,810	118,496	*
Pepper and pimento		26,935	200	262,003	639,607	377,604
Cassia and cinnamon		5,343	226	170,095	425,320	255,225
Coffee		604,890	48,040	5,559,500	10,258,800	4,691,380
Cocoa		8,359	45	116,336	140,616	24,260
Tea		3,272	1,401	163,712	570,323	406,613
Refined sugar		14,404	—	120,994	531,240	410,246
Half-refined sugar (faria)		290	140	1,030	378,536	377,486
Raw sugar, for refining		1,151,569	32,824	6,152,768	7,793,362	1,640,594
Oils		74,111	29,142	472,175	2,154,107	1,681,932
Indigo		28,366	4,583	3,496,101	4,710,174	1,214,073
Palm, sperm, cocoa, and mixed oils		58,334	11	574,565	1,114,084	542,519
Dried fish		31,890	1,691	105,679	146,230	40,551
Turpentine		16,242	258	117,632	198,570	50,918
Lead		73,270	7,583	328,385	473,615	145,230
Hops		14,941	12,979	27,468	82,124	54,656
Beeswax		5,230	511	155,727	284,625	129,898
Total amount				\$28,046,592	\$65,213,515	\$27,195,237
*Decrease in 1845, on ginger, &c.				—	—	22,314
Total increase						\$27,166,923

The official returns of the Zoll Verein States for 1842-3 and 4, we have never seen. In the statement above, a comparative view is presented of the articles named in the two previous ones, imported, re-exported, and consumed, in the five years from 1837 to 1841, together with the amount consumed and on hand in 1845. The consumption is thus shown to have increased in a very few years more than 70 per cent.

In compliance with our intention, previously expressed, we propose to offer a few remarks upon the more important clauses of the German Customs' Treaty, concluded on the 22d March, 1833. Its object will be found stated in the opening of our article, though not perhaps with the clearness and precision by which it is marked in the document under consideration, viz: "A General Union, united by a common system of Customs and Commerce, embracing all the countries comprised therein." Uniform laws were established under the fourth section for import and transit duties, with the exception of such modifications as might result from the local interests or the particular legislation of any of the contracting States, not in conflict with the com-

mon object. Thus, should a modification of the tariff be desired by a particular State, it would be necessary to establish, that the article proposed to be affected was of minor consequence in commerce, and the exception in no manner disadvantageous to the general interests of the Association. With a view to any alterations, additions or exceptions, to the common tariff, the unanimous consent of the contracting parties is required for its adoption. To this feature we might be disposed to offer our dissent, founded upon its *impracticability* in a country so diversified in interests and pursuits, were we not persuaded that the practical experience of years furnishes a suitable reply to the theories we may be inclined to advance. The articles excluded from the free commerce of the States are distributed under three heads, viz:

1. Articles monopolized by the States, such as playing cards and salt.
2. *Indigenous* articles, subject to different duties in the interior of the contracting States.
3. Articles that cannot be imported or imitated without prejudice to patent rights or conceded privileges.

As an exception, however, to the freedom of trade established under the VII section, it has been provided that the transport of articles of commerce between the States of Bavaria and Wirtemburg and the States of Prussia, of Electoral Hesse or of Ducal Hesse, (forming the parties to the treaty) shall not take place, except by "the public roads, military routes and navigable rivers." *Bureau's* of verification have in conformity therewith been instituted upon the frontiers, to which the conductors of merchandize are required to report themselves. To this, also, there are exceptions, consisting of the effects of travelers, articles of retail commerce in the raw material, the petty commerce of the frontier and of that transacted at the fairs, so long the favorite mart of the nation. Whether for the State or for private rights, the tolls, or tax in lieu thereof, are not to exceed the amount necessary for the maintenance and repairs of the roads. To the portions of the treaty having a prospective bearing, we deem it unnecessary to offer any remarks, as, since its negotiation, many of them have been carried into effect, and embodied in our article.

For the encouragement of industry, the contracting States were bound by the adoption of uniform regulations, so that the citizens of one State should experience no obstructions to the privilege of seeking employment in every other State. If authorized to pursue the occupation of commerce in their own State, they would be subject to no impost in soliciting commissions in any of the other States. The same applied to manufacturers and travelers who might have goods with them. The seaports of Prussia are, by the XIX section, open for commerce to the subjects of all the contracting States at a common rate of duty, and Consuls are required to assist with their influence and advice the subjects of other States. Simultaneously with the treaty a reciprocal cartel was concluded, to insure the "payment of the duty of consumption in the interior," and protect the common Custom House system from the effects of a contraband trade. Excluded from the community of receipts are such articles of indigenous growth, the imposts upon which are collected in the interior of each State, the

tolls on rivers to which the regulations of the Congress of Vienna or special Conventions apply, and fines or confiscations which, exclusive of the proportion paid to informers, remain the property of the Government imposing them. The produce of duties received in the common treasury are divided among the States composing the League, in the proportion of population, subject, however, to restitution for erroneous receipts. Should any State authorize a restitution of duties, not in conformity with the legislation of the customs, the amount is charged to the treasury of the Government granting it. At the expiration of every three years an enumeration of the population in the associated States is required to be made, and the result thereof communicated to the Assembly of Plenipotentiaries, who meet every year on the 1st June, to deliberate generally on the affairs of the Association. They are empowered to choose a President to preside, whose office, however, gives him "no pre-eminence over the other members." The first assembly was held at Munich. Without reference to the questions to be presented to their consideration, at the close of each annual meeting the place of assembly is determined upon. The subjects which will be presented for the consideration of the Assembly of Plenipotentiaries are thus classified. We present them to the reader in their original form:

- "A. To consider the complaints which may have arisen, in any of the States of the Association, concerning the execution of the General treaty, of special conventions, of the law, and of custom house regulations; also of the tariff; when these shall not have been adjusted during the year by correspondence between the different Ministers.
- "B. The definite reparation among the States of the union of the total common receipts, based upon the observations made by the superior authorities and verified by the central *bureau*, as may be rendered necessary by the common interest.
- "C. To deliberate upon propositions and suggestions made by the governments for the perfection of the administration.
- "D. Discussions upon alterations demanded by any of the contracting States, in the laws, tariff, and custom house regulations, as well as in the organization of the administration, and in general upon the development and perfection of the general system of customs and commerce."

Should extraordinary incidents occur during the period that the Plenipotentiaries are not in session, the diplomatic agents of the States are empowered to consult with a view to the measures necessary to be adopted, or to order an extra sitting of the Plenipotentiaries, should this in their judgment be demanded by the general interest.

We would consider our task but imperfectly performed, did we neglect to direct attention to the manifestations in the States of the Zoll Verein for the establishment of a Commercial University. This idea is peculiar to our age and marks the rapid strides of science in all the varied and useful departments of life. A higher appreciation of the world's destiny is evidently the leading characteristic of our times, over all other. To New Orleans, however, belongs the substantial merit of engraving a Commercial Professorship, upon the proud seat of learning her noble liberality has erected.

Art. VI.—THE AMERICAN INDIANS.

SPECULATIONS have multiplied in relation to the origin of this remarkable people, from the very moment in which adventurous discovery introduced them to the nations of the civilized world. With these it is not our province now to deal; nor have we any disposition to enter the arena with any of those gladiators who have contended in keen encounter over their rights and wrongs, their virtues, their vices, and their sufferings. Let all of this pass.

The late annual Report of the Commissioner of Indian Affairs, W. Medill, Esq., furnishes an occasion for some reflections, and the data which we think will be highly interesting and instructive to our readers. It accompanies the papers of the Secretary of War, for the year 1847.

The policy of the United States would appear to be in the highest degree favorable to the Indians, if a careful study of it were made by any unprejudiced individual. True, the position of these "children of nature" is the most peculiar, and well calculated to excite the deepest sympathy. Yet is it the stern part of our country, though mitigated by benevolence, to fulfil an inexorable fate—to increase, extend and multiply, whilst the Indian withers and fades away like the blighted leaf of autumn. Thus in the progress of ages—men and nations perform their allotted parts, and yield the stage in turn.

"The present hour has but one oracle for the Indians,—it is wo! wo!" We introduce an eloquent passage from a paper prepared by our friend, G. F. Holmes, Esq.: "The same evil destiny which haunted the Pelasgians is sucking the life-blood of the Indians: their whole career, too, so far as our certain information extends, has been one of progressive paralysis and extinction. The countenance of the red man, his manners, and his language, all seem to give a sad presentiment of his fate. The deep gloom which is impressed upon his noble but impulsive features,—the quiet dignity of his address, manifesting the conscious pride of adversity, and the soft, subdued, but thrilling tones of his eloquence, combine to mark a race upon whom the Angel of Death has set his seal. Even his religion is breathed forth in the deep but haughty accents of despair: it is to Areskoni, the god of war and destruction, the evil spirit of his simple mythology, to whom his orisons are principally directed. The brightest prospect for the Brave is death; the only termination for the race is an early and a silent grave. Such, however, are merely the thick but pregnant fancies of the hour,—the reality is sterner still. Like the old Pelasgian race, the Indian stretched his dominion over a vast portion of a great continent: like the Pelasgian, he has been exposed to all misfortunes, and has withered and waned away under every affliction which could befall him. The European conqueror came among the myriads of the Indian tribes,—he made slaves of their thousands. All perished. The European settler occupied their lands; the stream, that was thus dammed up, flooded its banks, and spread desolation where had been beauty and verdure before. The Puritan and the Cavalier, in the north and in the south, attacked them with the sword; the Quaker, in an intermediate region, by gifts and treaties, attempted the accom-

plishment of his objects,—but peace was scarcely less pernicious than war. They were thus driven from hunting-ground to hunting-ground, but there was no resting place for them. Wherever the march of the white man followed them, the wings of Destruction waved over their retreating steps, and rained down perdition upon them. If they escaped the sword, they must encounter the fearful ravages of the fire-water; if they abstained from intoxicating drinks,—a thing which it is hardly in the nature of an Indian to do,—famine met them in the path, and what famine had left unscathed, fell a prey to the small-pox or some other of the fell diseases which their white brethren had introduced among them. Turn where they will, the fiery sword is whirling around them, and all entrance into their expected or imagined Paradise is forbidden. For them, there is no land of promise,—no Canaan, flowing with rivers of milk and honey,—but black and bitter desolation awaits them. The pestilence is in their houses and about their tents, and there is none to stand between the living and the dead to stay the plague. Every step they take leads them nearer, and still more near, to the verge of the abyss: the clouds which gather around their path, become more dense and dark as they advance, and portend nothing but ultimate annihilation. At the present time, a few tribes have shot forth leaves and blossoms; but it is a hot-bed vegetation,—the colors, though beautiful, are not fixed, and the flower promises no fruit. They have been moulded by the superintendence of government officers—their principal chiefs have been of mixed breed, and their cultivation has been encouraged or supported by government annuities. A nursling which requires such tendance, will never shoot up in a strong and healthy tree,—the blossoms will wither upon the stem, and the only evidence of themselves which they will leave behind, will be the dead and faded leaves upon the ground. The other tribes are fast verging to destitution and utter extinction. The higher qualities of the Indian are rapidly disappearing under the operation of a hundred blighting influences. Every thing indicates coming annihilation. The numbers of their tribes are daily diminishing by want, riot, drunkenness and disease; the race seems to have lost its power of renovating itself; and each generation is likely to find its census but half that of its precursor. If their horoscope promises only degradation, death without progeny will forbid its perpetuity. The buffalo and other game of the Western prairies are vanishing; the sustenance and the occupation of the Indian are alike departing. But nature is still more fearfully and hopelessly arraying her powers against them: streams and lakes are drying up,* and the fish which, as a last resource, might have provided a scanty sustenance

* "For the last few years, the waters in all the prairies north-west of Traverse des Sioux, have been rapidly diminishing. Where, a few years since, were beautiful lakes, several miles in circumference, now not a drop of water can be found. Even streams dignified with the name of river, in which the Indian was accustomed to paddle his canoe, have entirely disappeared; and where the trader dreaded to pass, because it was difficult and sometimes dangerous or impracticable to transport his goods in dry carts, he now searches in vain for water to quench the thirst of himself and horse.

"The musk-rat ponds have of course dried up, and the musk-rats that were in them have perished, or gone nobody knows where."—Pub. Doc., pp. 421—2.

for an expiring generation,—this, too, small as it be, has their pitiless destiny snatched from their grasp. Verily, the fiction of Tantalus becomes true of a race. Regions of country, where, formerly, all was healthy, are now productive of epidemic diseases. May we not apply to the Indian what was said of the Jews?—“ Now, learn a parable of the fig-tree: when his branch is yet tender, and putteth forth leaves, ye know that the summer is nigh: so likewise ye, when ye shall see all these things, know that it is near, even at the doors.” Whatever the career and the fortunes of the Pelasgian may have been, the fate of the Indian is infinitely more wretched. To us, his destiny appears irrevocably sealed: he is incapable of civilization: he must wane away and be extinguished at last.”

But we prefer to these sombre reflections some facts which the Reports present for inspection.

There have been important difficulties during the year, growing out of the affairs of the Stockbridge Indians, resident in Wisconsin. These people are divided among themselves in relation to the form of government they should assume. A large party, called the Citizens, adopt the privileges conferred by the act of Congress of 1843, giving them full and equal powers with the whites in all matters of law or elective franchises, and deny the power of the act of 1846 in repeal. An able protest is presented by them, which is met by another from the Indian party, maintaining the necessity of the repeal. We cannot forbear an extract from this latter paper:

“ Believe us, we are not thus tenacious of our national character and rights, from a mere romantic love of, and preference for, Indian habits and customs. True, we have some veneration for the memory of our fathers; and we have some pride in the recollection of those, our ancestors, who welcomed yours to American shores; who nursed them through the weakness of infancy to the strength of manhood; who fought for them the battles of that independence which alone gives you the power to dispose our fate and to speak our doom. But above all, we have the abiding faith that we must be a people by ourselves. Our God hath made us distinct from you—we must remain so or perish. We can never participate in the wealth, or the social privileges of the whites, however we might be made participants in their political privileges. Our limited possessions are not necessary to the glory or the prosperity of the United States; and to be valuable to us, they must be secured against the purchases of the whites. To encourage agriculture among our people, we allot to each male adult or head of a family, a tract equal to his capacity to cultivate, and the balance we hold in common as a reserve, to be allotted who shall come after us. If our lands were to be held by each individual in fee, with full power to sell at pleasure, and surrounded as we are by a white population, eager and apt for acquisition, the generation which shall succeed us would find themselves without a home.”

The next paper is furnished by Wm. Richmond, Acting Superintendent at Detroit. He tells us of the slow advances of the Ottawa, Griswold and Black river colonies, and the operations of the Missionaries among them. The Chippewas and Pottawatomies appear to be more promising.*

[TO BE CONCLUDED.]

*We had prepared rather an extended paper upon this subject, but the unexpected length of other articles forces us to divide it. It is always with regret that we treat a subject in this manner, as much of its interest is thereby lost. But necessity has no law, and our contributors, we hope, will have as much philosophy as ourselves when the thing occurs.

AGRICULTURE AND MANUFACTURES SOUTH AND WEST.

I.—EAST INDIA RICE.*—(Concluded.)

WEEDING, loosening the soil, thinning where too thick, and transplanting to where the crop is too thin, is performed thrice. First, between the forty-fifth and fiftieth day, and again in twenty and thirty-five days from the first weeding. Rice which ripens in five and a half months must be inundated on the twentieth day; and the weedings must be on the same day, and twice again at intervals of ten days.

The plowing season for the *Cumba Caru* when dry seed is used, commences about the 21st August, and the seed is sown about the middle of December.

In the *Maysha Caru*, when dry seed is sown, the plowing begins in the last week of March, and the seed is sown after the first week of April. Dry seed is never used for the *Tula Caru*. In some places of Dinajpooर the seed is dibbled; a few seeds being dropped into holes, made about a span apart. This is the mode usually adopted for inserting the *Gohya*, or upland rice, by the Nepaulese.

Mr. Campbell states, "that there is probably one-third of the valley lands annually under the cultivation of this variety of rice. It is sown during the latter half of April, and the early part of May, and reaped during the last week of August and the whole of September. In the cultivation of *Gehya*, the greatest possible attention is paid to the preparation of the soil, by reducing it to a great degree of fineness, as well as by the exhibition of manure, and by previous exposure of the land to the fertilising influences of water, air, and frost. Whether the *Gohya* succeeds a *vetch* crop, a crop of *touli*, or another *Gohya* crop, the land to be sown with it in spring is delved, pulverised, and watered (if practicable) during the winter months of December and January. In addition to this, it has, when suitable to the soil, a coating of the black, earthy manure, laid on during the winter, and when the cultivator can procure it, one of artificial manure immediately previous to the sowing. Early in April the manure previously collected in small heaps on the field is spread over it, and about the middle of the month a light delving is given; which, followed by careful pulverisation, serves to mix the manure with the soil, to keep the former close to the surface, and to render the field a dead level. Immediately the land is thus prepared (not some days after, but simultaneously with the preparation,) the seed unmoistened is put in the ground by the fingers, and in rows six or eight inches apart, the sowers covering up the seed as they advance by drawing the hand over each transverse row of seed put in the ground. The *Gohya* sower squats on his or her hams, with a small basket of the seed placed on the ground between the knees, and using the forefinger and thumb of both hands, deposite the seed, grain by grain, or two grains together, at regular distances in the ground, commencing latterly at the utmost reach of the hands, and moving backwards after each row of six seeds is completed, and the hands have been quickly drawn along the row for the purpose of covering them in. Nothing can be more advantageous for quick and equal vegetation than this process; the seed getting a bed in moist, freshly turned up, and finely powdered soil, not one grain of it being left uncovered, nor one grain deeper set in the soil than its neighbors.

The after culture of *Gohya* is as carefully and laboriously gone through as its sowing. So soon as it is well above ground, the soil is loosened at the roots of each row, by means of the small one hand hoe, and any weeds which may have sprung up with it are carefully removed. This hand-hoeing and weeding is usually repeated three or four times, and occasionally five or six times during the growth of the crop. So universal is this efficient and careful cultivation throughout the valley, and so essential is it considered for the procuring of a full crop, that the cultivator who leaves his *Gohya* unhoed and unweeded is looked upon as a ruined sluggard; often repeated weeding and hoeing is considered as indispensable to this crop as flooding to the *malsi* and *toulis*.

"The more you weed and hoe the *Gohya*," say the cultivators, "the heavier will be the returns of *Dhan*, and the greater the produce of *chaul*, or edible rice, from it." Not only the straw and ear are increased in size by it, but the more

* For other information on Rice see Commercial Review, vol. I, p. 230; vol. III, p. 416; vol. IV, p. 503; vol. V, p. 181.

you hoe and weed, the thinner is the husk of the grain compared with its nutritious part. With the exception of the indigo cultivation in Tirhoot, and that of the poppy in Behar generally, I have never seen the culture of the Gohya rice in Nepaul surpassed in efficiency, and I believe it is but rarely equalled in any part of India; yet the crop is inferior to the transplanted rice, which neither wants nor receives a tithe of this care, and is rarely weeded in very wet seasons. The reaping, thrashing, and drying of the Gohya are performed as on the transplanted rice. Hukwa is made from it also, but in small quantities. It is of a whitish yellow color in the ear, the touri is of a brighter yellow, and the malsi dark brown or blackish. The Gohya is considered very nutritious and wholesome.*

In Nepaul, from thirty seers to one maund are sown per biggah, and the average produce is fifty maunds.†

Fifteen cutcha seer of rice is the quantity of seed sown in the northern parts of Bengal upon a cutcha biggah (1-8 of an acre) of land.‡

GERMINATED SEED SOWING.—In Mysore, if this mode is adopted for the *Hainu* crop, the plowings occur between the third week of June and the same period in July. The plowing is repeated four times, each at right angles to the preceding, and the fields during the time inundated. The field is then manured, immediately plowed a fifth time, and the mud smoothed with the laborer's feet. The water is drawn off, so as to leave its depth not more than an inch, and the sprouted seed sown. It requires no process to cover it. During the first twenty-four days the field is watered every alternate day, and then inundated until the crop is ripe. The weedings are on the twenty-fifth, thirty-fifth, and fiftieth days.

The seed is prepared by being kept under water in a vessel for three days; it is then mixed with an equal quantity of decayed cow-dung,§ and laid in a heap in the house entirely sheltered from the wind and covered with straw and mats. At Joomla, in Nepaul, the covering used is a mixture of earth and manure. At the end of three days sprouts three inches long are thrown out, and it is then fit for sowing.

This mode of cultivation is more troublesome than the former, and the produce is not greater, but it allows a crop of pulse to be previously obtained from the same ground, and requires only three-fourths the quantity of seed.

Transplanted Rice is cultivated in two modes, viz., *Barra'agy* or *dry plants*, and *Nir'agy* or *wet plants*.|| Low lands are required for each. For the *Barra'agy* in the *Hainu* crop, the ground is worked at the time and in the manner as for the dry seed crop. In the last week of May the manure is put on, the seed sown very thick, and covered with the plow; one-tenth of a biggah of seed is allowed in Puraniya for every biggah that is to be planted. No rain occurring before the eighth day, water is given, and again in a fortnight; but if there are showers these are unnecessary. From the forty-fifth to the sixtieth day the plants continue fit for removal, to facilitate which, the field is inundated for five days before. For their reception, the field, inundated all the time, is plowed four times in eight weeks, commencing in the first week of June. Manure is added before the fourth plowing; after this, the surface is levelled with the foot, the seedlings are planted, from three to five being placed together, and an interval of a span allowed between every two little tufts. The water is let off for a day, but the land is subsequently kept flooded. The weedings are performed on the twentieth, thirty-fifth, and forty-fifth days after the transplantation.

In Mysore, for the *Tula Caru*, sprouted seed is sown about the 19th of October, the plowing having commenced a month before. The *Cumba Caru* sprouted seed is sown about the 1st of January; the plowing having taken place in the previous month. The plowing for the *Maysha Caru* sprouted seed commences in the second week of April, and the sowing in the same period of May.

When sprouted seed is sown in Mysore, one bushel and four and a half gallons are allotted to an acre, and an average produce is rather better than thirty-one bushels.

* Trans. Agri-Hort. Soc. vol. iv. pp. 122, 124.

† Ibid. vol. iv. p. 79.

‡ Tenant, Ind. Rec. vol. ii. p. 185.

§ About Mundium they also add fresh plants of *Phlomis esculenta* (Roxb.) there called *Tumbay Sopu*.

|| The transplanting system is called *Naduga* in South Malabar.

About Medura, the quantity of seed sown is larger, varying from three pecks to more than one bushel, and the advantage is shown by the increased produce. This was from fifty-nine to forty-seven bushels, being invariably the largest where most seed was sown.*

TRANSPLANTING.—When this mode of cultivation is adopted, the rice is sown very thick in a small space of manured ground; and when the plants have attained the height of six or eight inches, it is ready for transplantation.

A field overflowed has to be plowed until the surface is converted into a sufficient mud, and to this the plants are removed from the seed-bed. One or two are dropped together in a place, and this is repeated at equal distances all over the field, which appears a mere sheet of water. To secure the plants sinking in their proper position to the bottom, each has its roots enveloped in a ball of clay. Such crops, says Dr. Tennant, though tedious in preparation, generally remunerate for the extra trouble.†

The progress of vegetation in Behar is so rapid, that the first harvest arrives in two months after planting the rice as above described; the second is reaped in November, and having been planted in August, may be grown on the same field as its predecessor. The second crop grown is a fine species of rice, and constitutes the most valuable crop, and upon its success the well-being of the farmer and of the country greatly depend.

In Mysore, for the transplanted *Hainu* crop the ground is ploughed dry thrice between the middle of February and the middle of March. About the 24th of May the field is inundated, and plowed four times in the fifteen following days. After the last plowing, the surface is levelled with the foot, the seed sown very thick, and dung sprinkled over it. The water is let off; but on the third, sixth, and ninth days water is again given, and as often let off, not being allowed to stagnate. On the twelfth day the water is let on, and allowed to remain until the plants are fit for removing, which is about thirty days after sowing. The cultivation of the field into which they are transplanted is the same as for the *Barra'agy*.

By these modes the field into which the seedlings are transplanted are enabled to produce previously a crop of pulse. Otherwise, the produce is not more than that obtained from seed sown where the plants are to remain. Nor is it stated by Dr. Buchanan that it is superior to the less troublesome mode of germinating the seed. It has the advantage of ensuring a more regular plant, but its regulated distances are of less consequence, since hoeing is not required in a field constantly under water. Twenty times the seed sown is an average crop.

In Mysore the *Cumba Caru* transplanted rice is cultivated only as wet seedlings, *nir'agy*. About the 16th of November the plowings commence, and the seed is sown by the last day of December. The fields on which this crop is ripened are begun to be plowed about the 1st of December, and the transplanting commences about the 29th of January. The *Tula Caru* transplanted rice is sown *nir'agy* in the third week of October, and is transplanted within a month after. The *Maysha Caru* transplanted rice is also sown *nir'agy*, after the first week of May, and in about a month the seedlings are transplanted.

The regular *Caru* crop of the transplanted cultivation does not interfere with a preceding crop of pulse; but this is last when, from want of laborers, &c., the early or late seasons are adopted. The various modes of cultivating rice give the farmer the great advantage of being able to cultivate the same land with fewer hands and less cattle than if there were only one seed time and one harvest, the labor being divided over a great part of the year.†

In the vicinity of Pali-ghat, in South Malabar, the land appropriate for the production of rice is called *Dhanmurry*, and is of two kinds—the *Pelealil*, or high ground, which yields only one crop annually, and the low ground, *Ubayum*, which produces two crops in the year.

The chief points of difference in their system of cultivation, is, that on the *Pelealil* ground they keep the crop without water for fifteen days after being sown; it is then hand-weeded by women, and the plants thinned to equal distances. At Pali-ghat, when rice is cultivated according to the transplanting system, the seedlings are raised in a poor, high-lying soil, called the *Maytan*, which is kept for the purpose, and pays no rent.

* Buchanan's Mysore, i. 140.

† Buchanan's Mysore, i. 84-90.

† Ind. Rec. ii. 126.

I shall make but little allusion to the agriculture of Birmah, because it is very inferior even to that of India; but, as an example, I will give an outline of that adopted for this their principal crop. After ploughing, which is not done more than twice, and even in some lands only harrowing is given, the clods are broken by means of a cylinder of wood, dragged over the surface, but not turning upon an axis. The land is wetted, and the plants transplanted, after which no cultivation is given. Two crops, and sometimes three, are obtained annually. The best is produced during the rains, the others by irrigation, which is a rude, expensive process, performed by hand.*

Transplanted spring rice is cultivated in Puraniya on the banks of the marshes, which gradually dry as the spring advances, but which always retain water in the center sufficient to supply the fields.

Between mid-September and mid-November, a plot is plowed upon the edge for a seed-bed. In this, the soil being first mixed into a mud, the seed is sown, having been made to sprout by steeping it for thirty hours in water, and keeping it covered with grass in a sheltered place.

The seedlings, before the second week of January, are transplanted twice, lower down the marsh's side each time, as the water retires. At each transplanting, they occupy double the space they previously required.

Between mid-January and mid-April they are finally transplanted. About one-half is so removed in the first month of the season, and is very productive; an eighth is transplanted in the second month, and gives an indifferent crop; and the remaining three eighths are transplanted during the third month, making a return so miserable, as to be scarcely worth attention, if it did not occupy time which would otherwise be passed in idleness.†

REAPING.—It is a common practice in Dinajpoor, when the rice is nearly ripe, to press the crop quite flat on the ground, by passing a bamboo, held by two men, over the whole. Various reasons, says Dr. Buchanan, are assigned for this. It is said, especially in the northwestern parts of the district, where the practice is most common, that in some measure it secures the field from the depredation of thieves, who, according to the most moderate computation, compose three-eighths of the men in these parts. It is also said, that it prevents the grain shaking out when ripe, and so gives time for harvesting it—resting on the ground not being injurious; moreover, that it facilitates reaping, as the reaper sits on his heels while at work. It is chiefly the second and third kinds of winter rice that are managed in this manner. In reaping the coarse kinds, little but the ears are cut off; but of the finer, the straw is severed close to the ground.

DISEASES, &c.—Although the rice requires a more abundant supply of water than any other of the cereal crops, yet that it can be applied in excess admits of no doubt. If, during its early growth, the water for several days is deep enough to overtow its central leaves, the crop is injured, and may be destroyed. Dr. Tytler states decisively, that in Bengal the rice annually grows in water far more plentiful than is required for its proper cultivation, and hence the greatest part of every crop of Bengal paddy, more particularly the autumnal, or *ashoo* (vulgarly pronounced *aoosha*) harvest, is affected with the *ergot*, or *cockspur*, a disease which renders it not only inunutritious, but poisonous.‡

The *ergot*, *clarus*, or *cockspur*, which occasionally so much injures the rice crop, is known in Europe as affecting barley, rye, and, more rarely, wheat. It has been shown by M. de Candolle to arise from a parasitic fungus, which he has named *Sclerotium clavus*.

It is an elongated substance, filling the place of the grain in the glume, or husk; its flesh firm, white, compact, of one substance; its surface dingy purple. Like all the parasitic fungi, its occurrence is promoted by such excessive humidity as is unfavorable to the plant. Some districts are much more liable to its attacks than others. It has not been found to be caused by applying water in excess upon the head of the grain. It is strictly topical—one or more grains in the same ear may be affected, and the others free.§

In Nepaul, the upland rice is liable to suffer from the attacks of grubs. These attack the roots of the plants, and their ravages are rendered apparent by the languishing and whitening of the young rice plants, when only a few inches

* Crawford's Embassy to Ava, &c. † Martin's Buchanan's India, iii. 212

‡ Trans. Agri-Hort. Soc. of India, i. 10. § Quart. Journ. of Science, ii. 272

above the ground; this is attributed to the attacks of a large grub, called *kiongki*, or root-worm, of a black or blue color, generally the thickness of the forefinger, sometimes as thick as the thumb, and about two inches long. It is supposed by the natives to be produced, and to thrive best, in rotten manure, and to devour the seed and young radicals of the plant. The *kiongki* is most destructive to the *Gohya*, or upland rice, attacking it soon after being sown, and continuing its ravages until about the middle of May, after which it ceases. The people do not know what flying insect this grub is the larva, nor have they any remedy against its attacks, except removing it from the fields when they see it. The third disease of white crops is a premature whitening of the ears of rice (both kinds), and the failure of the grain in them. This is attributed by the Newars to the attacks of a small grub, the size of the common white maggot, the body of which is white, the head black and hard. It is called *sheo-ki*, the marrow or pith-worm. The *sheo-ki* is supposed to eat the roots of the rice plants; but its prey more especially is said to be the stalk and juices of the plant; for obtaining the latter of which, it cuts the plants at the joints, after which the ear whitens without filling. The natives attribute the drying up of the ear and plant to the drinking of its milk (sap) by the grub, which prevents the due formation of a full-sized grain.*

PANICUM ITALICUM.—There are two varieties cultivated in Mysore, the *ghidu*, or dwarf, and the *jotu*, or *doda*, or tall.

Soil.—In whatever country grown, it requires the best light, dry soils, unless manure can be afforded for its culture; in which case a poorer soil will suffice.

Cultivation.—The ground is ploughed six times in spring; and the seed about half a bushel per acre, ploughed in at the commencement of the rains.

It is sometimes grown in drills among *Cynosurus corocanus*.

No after culture is given. The crop, ripe within three months from the time of sowing, is reaped close to the ground—in Mysore stacked for eight days; and after being dried in the sunshine for one day, the grain is trodden out. The usual produce is sixteen bushels per acre.

Use.—It is used for the same purposes as rice. The straw is not good fodder.

PANICUM MILIARE.—There are three varieties in Mysore, called *hari*, *cari*, and *hal*, or *bily*. They are never intermixed.

Soil.—It requires a light soil. Of this description, the very poorest is usually assigned for its growth—for no other reason than that manure is so deficient.

Cultivation.—The land is ploughed in the spring five times; and, when the heavy rains begin, the seed is sown from two to three and a half gallons per acre, and ploughed in. Manure is not absolutely required for this crop, even in the worst lands, though its application improves the produce.

No after culture is given to it; and in three months it is reaped, being cut close to the ground, and gathered into heaps. In five or six days it is ready for the thrashing-floor and its oxen. An average crop is in some districts three, and in others sixteen bushels per acre; but always most abundant where the crop is sown thickest.

Use.—The grain is employed for the same purposes as rice, and the straw is a serviceable fodder.

PANICUM MILIACEUM.—This is the well-known *chenna* of Bengal. Two varieties are known in Puraniyah,—*bhadai*, which ripens in spring, and *vasaki*, ripening in the rainy season,

Sowing.—The first is sown about February, and the second just as the rains commence.

In Mysore only one crop of this grain is sown, and the sowing takes place at the close of the heavy rains.

Soil.—This differs from the other species in preferring a tenacious soil, which should be moderately fertile.

Cultivation.—After two or three ploughings, the seed is sown, and, in Mysore, covered by an additional ploughing; but in other parts of India the usual harrowing is given. No manure is applied, nor any other culture. The crop ripens in about ten weeks, is reaped close to the surface, and the grain is trodden out. In Mysore it is stacked for a few days before thrashing.

Use.—The seed is used as rice, but the straw only serves for fuel.

II.—THE VINE IN LOUISIANA.*

ALEXANDRIA, January 26, 1848.

J. D. B. DE BOW, Esq.

As your inestimable periodical, the Commercial Review, solicits information upon any subject connected with, or applicable to, Horticulture, as well as Agriculture, I proceed to say something in relation to the Vine. *The Scuppernong* will be more particularly alluded to than any other—for the reason that it is a native of the land, the mistress of the forest; and while it embraces all the requisites necessary for making wine, its longevity, incalculable product, and hardihood are proverbial—I should say when properly managed—for if years of experience in this as well as many other kinds, both native and foreign, have taught me any knowledge, I must add that the *Scuppernong* or *Roanoke* vine is, and has always been, miserably managed. Of all the essays written upon this particular vine, from the time of the Hon. John Lowell to this day, not an effort has been made to bring it to that high state of cultivation it so justly deserves, and has been uniformly left to trail upon an arbor, yielding what the bounties of nature could afford it. The son planting and training it just as his father did, and because his father did. But, sir, I conceive that this routine of doing wrong in defence of our parents must end, if we expect to be ever benefitted by experience. For in turning a deaf ear to horticultural experience, where, let me ask, would have been the fine pippins and pears that our market can boast? One would have been yet in the bosom of the "austere crab," while the other would linger in the miserable stoned pear or pyraster; and after all the experimental advantages before us, I still hear the old plan of arbor training for the *Scuppernong*. But to this subject presently.

My attention is drawn to the culture of the vine, and facts relating to it, for I see at no distant day that the culture of this *very* vine is to assume an attitude of progress heretofore unparalleled in the history of our country; nor can I think otherwise, when I behold the prouder staples of our soil brought down to the lowest state of degradation in value, by the combination of the capitalist, the spinner and the weaver. Sir, why not. We have certainly a vine, or vines, well calculated for such an end, acknowledged by both native and foreign judges to be amply sufficient, and the only thing necessary is a glance at its culture for the benefit of the cultivator that he may begin right, and lose no time, for it often happens with vines as with every thing else, that when we find ourselves erring the past ten years we are apt to be disgusted, disappointed, and abandon the culture.

Many years ago where I now reside, my attention was drawn to the culture of the vine, and after having imported many different varieties of native and exotic vines from the Eastern States, and from Europe, I naturally looked forward to the best mode of training and other management of the vine. I adopted as a plan the same used in the Thomery gardens of France, as the proper mode for my little vineyard, with this difference, however; instead of giving five vines to eight feet square, I gave but a single one, (natives,) for I foresaw that the great development necessary to all of our native vines required a corresponding space for their extension; and, consequently, I gave a single vine of the Catawba, Isabella, Norton's Virginia Seedling, the Cunningham, and other varieties, (all native) the space of ten feet; I train and prune them on the same plan as at Thomery, except allowing six or seven times the bearing wood, as is allowed to the Chasselas. The *Scuppernong*, I found upon farther familiarity, required at least three times the above space. Keeping the plan in view and enlarging upon it I hit exactly the one for this vine, and perhaps here will be the proper place to give my mode of management, and as the management of a single vine requires common understanding only to be applied to a whole vineyard, I will speak only of one.

Take five posts of any durable wood, set them two feet in the ground, and six feet out of the ground. To the center post plant your vine (*Scuppernong*.) All that is necessary the first year is to encourage the growth by keeping it clear of grass, taking care to train it perpendicularly for the sake of its greatest growth. When the leaf *first falls off* in November, it requires the first process of manage-

* For other information on Vines and Wine, see Commercial Review, Vol. 113 463, 464, IV. 310, 313, 315 V. 29.

ment. To the five posts already planted, you should at least have four slats or rails, one two feet from the bottom, one at top, and two in the space between; the vine should now be cut down to six inches below the lowest rail. When the sprouting season comes on, it will throw out a number of shoots on all sides of the vine; two top ones only should be allowed to grow, and one of these should be trained obliquely to the right, and the other obliquely to the left; if your vine is attended to during the growing season you will have some ten or twelve feet of vine to operate upon. And here comes the second year's management, and that is to lay the vine gently upon the bottom trellace, binding it loosely at every fifteen or eighteen inches to the extent of the well matured wood of last year. About eighteen inches of the extreme end should be inclined uppermost to encourage the length, so as to fill out the whole extent to the right and left to the full distance of sixteen feet, eight each way from the center. Now, from the center post each way you should have small sticks tied, or otherwise fastened, one foot apart, from the lowest trellace to the top one. To each of those sticks train the nearest vine that starts from the arms, destroying all others. Thus you will have, on the first eight feet to the right and left eight uprights, making sixteen upright vines to the top trellace, the extreme end of the old vine will have produced in growth in this time sufficient to fill up the other eight feet each way, and should be turned down and subjected to the same management as the first eight were; and when the vine is complete you will have thirty-two feet of arm with thirty-two uprights, and these uprights should be annually so pruned that they give six inches of new wood each, six inches apart, cutting off at each succeeding pruning and substituting young wood to produce your fruit. After the training is completed, the pruning becomes so uniform year after year, that any intelligent boy can perform the task.

I have a Scuppernong vine about five years old; half of this vine is allowed to run on an arbor, while the rest is trained and pruned somewhat as described above, and the result last season, *of the contrast*, was truly surprising—more grapes being upon a foot square on the pruned side than was to be found on a square yard on the other side. This was witnessed by many of my neighbors who viewed it with astonishment.

I paid a visit in 1828 to my old native State, North Carolina, on business, and during my sojourn something took me to that part of the State where the Scuppernong vine is propagated to a large extent; all, however, on the arbor plan, or some such, and although in the midst of the vintage many of their vines had on them not a single grape, while, perhaps, another close at hand would be tolerably full. Upon enquiry, I found they bore their fruit alternately; if one overbore one season it would be too much exhausted to produce fruit and support the additional foliage and old vine the succeeding year. When I asked why they trained their vines upon so unmanageable a plan, they invariably replied, "When I get them this way I have no further trouble with them," never dreaming once of the great utility of the pruning instrument. Ask any one conversant on the subject of the vine and its culture, and he will tell you that the benign influence of the sun's rays is absolutely indispensable to the proper maturation of the fruit so essentially required in the fermentation. Now, I contend that, under this thatched roof canopy is totally defeated this most desirable object, for under this management the sun's rays are entirely obstructed from the earth, and it is evident from this cause that the Scuppernong does not produce better with many persons than it does. I noticed a very flourishing vine, in 1841, at Major A. Alston's, in Warren county, N. C., who proposed grubbing it from its position for producing no better. Some, under the same management, not far from this, are doing no better. I could mention several, but one I will allude to particularly, in the Bayou Chicot neighborhood, belonging to a gentleman whose lady kindly furnished me with roots; and while this vine produces comparatively nothing under the arbor management, I have told you what its offspring has done by pruning and training.

In recommending a suit of grapes for vineyard culture, I should unquestionably place at the head of the list the Scuppernong. This will give White wine, and for coloring purposes, of the kinds that do not rot, with me would be first Norton's Seedling, Weller's Halifax, Cunningham, Willis' Fredonia. The last four ripen in regular succession, while the first is in product for six weeks in this vicinity. The above five kinds out of many varieties in my vineyard are all

that is required for vineyard culture, and I might add for the table also, for nothing can excel the Scuppernong for delicacy.*

I should have added that the distance between trellaces should not be much more nor less than ten feet from row to row, or from one row of trellace to the other.

The great stumbling block to many whom I have found desirous to enter on a small scale into this business, appears to be the doubt how they are to procure vines as it does not come from the cutting. When this is once understood, rooted plants are as easily procured as from vines that come from the cuts. Procure one, two, or three Scuppernong rooted vines, plant them in a rich light earth, train them to a stick three or four feet high and not higher. When arrived at that height it will naturally drop all its laterals and foliage in the ground in the month of July; when the shoots from the main stem have covered a space of the diameter of five feet, cover all the young vines with dirt to the depth of four inches, leaving the ends of the vine out two or three feet long. In the winter this will afford you from 10 to 100 rooted vines for immediate use. I have one vine of this description that is quite sufficient for any one vineyard. Those two items I consider of importance.

III.—TOBACCO.

WE have furnished in the past numbers of our Review, almost everything that relates to the history of, and trade in, this remarkable plant, particularly in vol. II, p. 42, 43, 47, 149, 256, 249, 355; vol. III, p. 575, 578; vol. IV, p. 391, 448. We add the following, which is of interest, from the last number of Skinner's Farmers' Library.

The genus *Nicotiana* is an annual plant, flowering and ripening its seed in almost all parts of the U. S. and is yet cultivated for profit as far north as Connecticut, where its leaf is remarkably delicate and silky, with small fibres, and when cured rather of a dark cinnamon than of a bright color, and is understood to be used chiefly as wrappers of cigars.

As to the character and habits of the worm and the fly, we have been for these to the foot of Gamaliel; and were there so fortunate as to obtain the following account from that distinguished planter, the *President of the Prince George's Agricultural Society*, and what is more and much better proof of practical excellence, the *winner, the past year, of the first prize for the best managed farm!* —a much greater honor, in our poor esteem, than if awarded for killing 1,000 guerrillas.

Volumes have been written, pro and con, on the use and abuses of this very remarkable plant—remarkable alike in its history, its uses and its commercial relations—and especially in its serpent-like power to fascinate and overcome by its charms, of an indefinable sort, the disgust it is in most respects so well fitted to inspire. As we have anticipated by a month or more the season for sowing the seed, we may indulge here in some remarks relating to its original habitation and its chemical and medicinal properties, intending in subsequent numbers, and in good season, to present it in all the practical views connected with its cultivation and commercial value—not for the benefit of our friends in the old "Plantation States," who know it all "like a book," but because it may interest some who propose to embark in its culture, and yet more for the reason that in the Farmers' Library it is proper that the American cultivator should find, ready at his hands, memoirs, as full as need be, in regard to every important branch of Rural Industry.

De gustibus non disputandum—in plain English, there is no disputing about tastes; and though many of our readers may forego, and even abhor the use of tobacco in every form, the consumption of this delectable weed has nevertheless spread into all parts of the world; nor is there any, where the taste for it is so licentiously indulged as in our own, if we may believe the half that is written to stigmatize our habits, on this point, by travelers, male and female, who come

* We regret that it is not in our power to furnish in the Review the diagram with which the writer favors us.—[ED.]

Trolloping over our country, to seek what blemishes they may descry—and, alas! let us confess aside, descrying but too many. To quote our own language twenty-seven years ago—

"In the whole Vegetable Kingdom, perhaps, no plant can be found, the propagation and effects of which have attracted as much notice, and produced so much excitement as this disgusting—some would say, fascinating weed. It has been alike the theme of poetical eulogy and the object of secular and political proscription. Popes have let loose their roaring bulls, and Kings have issued their decrees against it, and well would it be if Church and State would form alliance only on *such occasions*."

"Like some other narcotic poisons, however, tobacco has made its way against the denunciations of all its enemies, and becomes more dear and indispensable to those who use it in the ratio of its injury to their constitutions.

"Tobacco is a native of this country, and was first imported into Europe about the middle of the sixteenth century by Hernandez de Toledo, who sent it into Spain and Portugal. The Embassador of Francis II, at the court of Lisbon, carried it into France in 1560, when it was presented to Catharine de Medicis, as a plant of extraordinary virtues from the New World. The Embassador's name was Nicot, hence the botanical appellation *Nicotiana* applied to this genus of plants. The introduction of the custom of smoking it in England has been ascribed to Sir Walter Raleigh.

"We are told that some tribes of the aboriginal inhabitants of this continent used tobacco as a burnt offering, the smoke of which they supposed to be acceptable to the gods. Thus we find that different nations address themselves to different senses as the medium for obtaining divine conciliation. While the pious Christian seeks propitiation by vocal or instrumental music, or a concert of both, the poor untutored savage implores favor and happiness through the intense of aromatic gums and the odor of sweet-scented tobacco.

"It is remarkable, says a learned author, that in the days of its first general introduction into Europe no man spoke about it with coolness or indifference, but every one warmly espoused its censure or its praise. Camden, in his *Life of Queen Elizabeth*, says that 'men used tobacco everywhere, some for wantonness and some for health's sake, and that with insatiable desire and greediness, they sucked the stinking smoke thereof through an earthen pipe, which they presently blew out again at their nostrils—so that Englishmen's bodies were so delighted with this plant that they seemed as it were degenerated into barbarians.'"

At that rate, what a number of *inside barbarians* we must have here in New York, where, according to the great statistical writer McGREGOR, ten thousand dollars' worth of cigars are smoked every day! to say nothing of the quantity that goes into the mouth and nose!

Dr. Venner, in a work entitled *Via Recta ad Vitam Longam*, published in London in 1638, gives a brief summary of the injuries done by tobacco: "It dieth the brain, dimmeth the sight, vitiate the smell, hurteth the stomach, destroyeth the concoction, disturbeth the humors and spirits, corrupteth the breath, induceth a trembling of the limbs, exsicateth the windpipe, lungs and liver, annoyeth the milt, scorcheth the heart, and causeth the blood to be adusted. In a word, it overthroweth the spirits, perverteth the understanding and confoundeth the senses, with sudden astonishment and stupiditie of the whole body."

Thus, more than 200 years ago, was denounced the great staple which our Prince George's friends persist in cultivating. If half the learned Doctor says of it were true, one might suppose that Malthus himself could desire no more effectual check on the readiness of mankind to follow that one most heeded of all God's commandments. But, like old Count Cornaro's *Via Recta ad Vitam Longam*, we apprehend it will ever be found much easier *to read than follow it*.

The priests of some tribes swallowed the smoke of tobacco to excite in them a spirit of divination, and when recovered from the fit of stupor into which it threw them, they asserted they had held a conference with the devil, and from him had learned to predict events. Their "Medicine Men" pretended to be inspired in a like manner with a knowledge of diseases and their cure. The rich indulged in it, we are told, as a luxury of the highest order, and the poor, as now, gave themselves up to it as a solace for the miseries of life. In the Southern States, now, in their almost universal solicitude for the comfort of their slaves, planters provide for them a regular supply of tobacco.

So excessive became the use of it that in many countries its consumption was forbidden or restrained by public authority. So excited against it was the First James, of England, that he not only denounced it in his book, "The Tobacco Blast," but expressly prohibited the planters of Virginia from cultivating more than 100 pounds on any one plantation, and vehemently warned his subjects not to "sin against God and harm their own persons and goods, and render themselves scorned and contemned by strangers who should come among them, by persevering in a custom loathsome to the eye, hateful to the nose, and baneful to the brain." Of such sumptuary laws and arbitrary interference with private habits and individual economy and freedom of action, have we not even yet some unavailing if not barbarous relics on our statute books? In this, be it understood, we by no means refer to the municipal law, still in force in a neighboring city, against any man caught, *flagrante delicto, smoking in the street*—extending their magisterial benedictions against this pride of Maryland industry even farther than Pope Urban the VIIIth, who confined his excommunication to those only who should impiously diffuse the smoke of tobacco *in the churches!* In Constantinople the anti-tobacco laws were yet more severe, for there the Turk who was found smoking was paraded publicly, with the pipe *transfixed through his nose*—a more appropriate punishment, one would think, for such as belong to the numerous and fashionable tribe of *snuffers*.

In the earliest record of Harvard University, as is set forth in the Memoir before us, there is a regulation that "No scholar shall take tobacco unless permitted by the President, with the consent of their parents and guardians, and on good reason first given by a physician, and then in a sober and private manner." We can't undertake to say how it is at Harvard University now, under the Presidency of a gentleman so distinguished for scholarship and courtly manners, but we a prehend, for that matter, that in many of our institutions, the justification of the student might be found in the example both of the L. L. D.'s and the M. D.'s among their elders.

On the other hand, this exciting weed has not failed in advocates among the literati, some of whom have hymned its praises in various forms and languages; for as Mr. Jefferson extolled the *oil of olives* as "the next best gift of God to man *after bread*," the pious author of a Latin "Hymn to Tobacco," styles it "the gift of Heaven and the ornament of the earth." Hence is here submitted a picture of this ornament of the earth, to the judgment of the reader, who in making it up will please remember to *drop the worm!* By-the-by, it ought to be explained that his wormship is never caught, as here exposed, reposing on the *top leaf*; but there was not room to display an entire plant, and to place the beautiful object where he delights to "revel," that is, on the most delicate and richest parts of the prime leaves below, eschewing the coarsest and greenest portions of the leaf and stems, while his fell destroyer, Man, (not the turkey,) with less delicacy of discrimination, eschews none, but *chews* all the manufacturer gives him, with some not very nice additions, such as copperas, &c. [The reference here is to an engraving.]

The narcotic properties of tobacco, to which it owes its fascinating powers, remind us not only of the "Confessions of the Opium-Eater," but of the effect also of the "betel-root," and another substance called "churrus," of the East Indies, were both are freely used, both as medicines and as opiates, having the power to beguile the imagination with the most delightful reveries. The similarity in the medical properties with those of tobacco, even suggest, if our planting friends will excuse the intimation, whether these Asiatic drugs may not at some future day, as yet it is to be hoped deeply wrapped in the womb of Time, be made to take the place of our great staple. Would it not, in a word, be more lamentable than strange, were the starveling natives of the East (called free) to supply, in the process of time, substitutes for two of the great products of the planting States, one entirely and the other in a great measure the product of Slave Labor—a labor with us so much better provided and more kindly cared for than any laboring class in Europe?

The *churrus*, above alluded to, is an *extract from hemp*, the *Cannabis Indica*. If what is said of the betel-nut be true, it ought certainly to be introduced into the veterinary practice of our country, than which practice nothing, no art, certainly, can well be in a lower or more rude and unsatisfactory state.

We might here introduce, were it only for the reason last stated, a more extended notice to illustrate their similarity, in effects, to the narcotic of which we

are treating, but that it would swell this article to an immoderate length, and so we shall assign it, if we can, another and contiguous position—contenting ourselves here with this reference to it as a matter that may repay the attention of the curious reader. But again to the subject in hand.

IV.—SUGAR MAKING IN LOUISIANA.

NEW ORLEANS, January 29th, 1848.

W. E. THOMPSON, Esq.

Sir:—To answer your inquiries as to the results of the different methods of Sugar making now in use upon the plantations in this State, I deeply regret that I cannot give you the full data of a crop taken this season by each method. To do this would require the correct information possessed only by the Planters who have used each method. But to fulfil your wishes as far as I am able, I offer the following remarks accompanied by two tables—the first table, showing in the last column, the "Scarsdale" crop taken off by Mr. Theodore J. Packwood with a three pan "N. Rillieux Apparatus," as contrasted with the other methods therein shown. The second table will show you the results by four different methods of taking off a crop of 800,000 pounds first Sugar.

There are now in Louisiana eight different methods used in making Sugar, viz:

1st—The Old Set of Kettles.

2d—Set of Kettles for Syrup, and Strike High Pressure Steam Pan.

3d—Set of Kettles for Syrup, and Strike Vacuum Pan.

4th—Open High Pressure Steam Pans for Syrup and Strike.

5th—Open High Pressure Steam Pans for Syrup and Strike Vacuum Pan.

6th—One Syrup and one Strike Vacuum Pan, Clarifiers and Filterers.

7th—"Desgrand's" Apparatus, Clarifiers and Filters.

8th—N. Rillieux's Three and Four Pan Apparatus, Clarifiers and Filters.

The first and second methods give very nearly the same Sugar and exactly the same quantity. Nearly the whole profit from a Steam Battery arises from the boiling of the Molasses. The different Strike High Pressure Pans give the same result, but the Worms are the best, as they cost less, and are easier kept in repair—same consumption of fuel, from three to four cords to the 1000 pounds Sugar.

3d. Sugar made in Set of Kettles and finished in a Vacuum Pan of any description, when well made, is worth 1-2 a 3-4 cent per pound more than when made by Kettles alone. The profits arising from a Strike Vacuum Pan pay back twice the outlay in one crop. There is no saving of fuel.

4th Method—Sugar made in Open High Pressure Steam Pans is worth less by 1-4 a 1-2 cent per pound than if made in the Set of Kettles, and the consumption of fuel is 15 to 25 per cent. greater.

5th Method is inferior to the Set of Kettles and Strike Vacuum Pan, and the consumption of fuel 15 to 25 per cent. greater.

6th Method gives as much and as good Sugar as the next following, but consumes from 3 to 3 1-2 cords of wood to 1000 pounds Sugar.

7th Method I think ought to give as much and as good Sugar as the following, but has not yet done so—consumes 1 1-2 a 1 3-4 cords of wood per 1000 pounds Sugar.

8th Method gives as much Sugar as the beforementioned 6th and 7th methods and better Sugar than all the other methods. The Three Pan Apparatus consumes from 9-10 to 1 1-2 cords wood per 1000 pounds Sugar, the Four Pan Apparatus from 1-2 to 3-4 cords per 1000 pounds Sugar.

The 1st and second methods are in general use in Louisiana, the first table shows the result. The profit of a Steam Battery arises from the boiling of the Molasses.

The 3d Method—the Vacuum Pan, is used as a Strike Pan on the following Plantations: Messrs. Morgan's, Gordon's, Millaudon's, Judge Butler's, Colonel Keys', Urquhart's, Davenport's, Kittridge's, P. Rillieux's and Poydras's.

Messrs. Morgan and Gordon make Syrup Mould Sugar. Messrs. Urquhart sold their unsyruped hhd. Vacuum Pan Sugar at 1-2 cent per pound more than that made by their Set of Kettles. P. Rillieux sold his Vacuum Pan Sugar in hdds. at 3-4 cent more than his Kettle Sugar.

The 4th Method is used by Messrs. R. Wilkinson and Forstall. I have no

certain information about Mr. R. Wilkinson's—Mr. Forstall's, it is said, consumes 4 *a* 5 cords of wood per 1000 pounds sugar, and the sugar is of lower quality than by a Set of Kettles. His Apparatus, including the Filters, cost \$12,000.

FIRST TABLE.

Showing the Value of a Crop of Cane made into Sugar by six different Methods, into hogsheads without being Syruped, at the price each kind has been sold at, or is worth this season.

Boiling power required to take off such a Crop—8,000 Pounds.

Method 1st. <i>The old Set of Kettles.</i>	Method 2d. <i>Set of Kettles and Steam Battery.</i>	Method 3d. <i>Set of Kettles and Vacuum Pan.</i>
Price 2 sets apparatus, \$2,000 1515 cords wood used. 653,367 lbs. dry sugar.	2 sets and 1 steam pan, \$2,500 1515 cords wood used. 653,368 lbs. dry sugar.	2 sets and 1 vacuum pan, \$4,000 1515 cords wood used. 653,367 lbs. dry sugar.
433,000 lbs. first sugar at $\frac{1}{2}$ cents, { \$9,485 00	433,000 lbs. at $\frac{1}{2}$ cts. \$19,485 00	433,000 lbs. at 5 cts., \$21,650 00
43,300 lbs. cistern bottom at 2 cents, { 866 00	133,500 lbs. second sugar at $\frac{1}{2}$ cents, { 4,921 25	162,000 lbs. second sugar, at $\frac{1}{4}$ cents, { 5,365 00
26,734 gallons molasses at 18 cents, { 4,812 12	13,557 gals. at 18 cts., 2,494 12	12,874 gals. at 18 cts., 2,317 32
Total, \$25,163 12	\$26,200 37	\$29,232 32
Plantation expenses, 7,000 00	Plantation expenses, 7,000 00	Plantation expenses, 7,000 00
Net proceeds, 18,163 12	Net proceeds, 19,200 36	Net proceeds, 22,232 32
Profit method 8, 13,440 43	Profit, &c., 12,403 00	Profit, &c., 6,371 23

The price of N. Rillieux's 3 pan Apparatus—8,000 pounds boiling power, set up, \$10,000.

Method 4th. <i>Altogether high pressure Pans with Filters.</i>	Method 5th. <i>High pressure Pans and Strike Vacuum Pan, with Filters.</i>	Method 8th. <i>N. Rillieux's Three Pan Apparatus.</i>
Mr. Forstall's, \$12,000 1948 cords wood used. 653,368 lbs. dry sugar.	Osgood and Johnson, \$10 @ 12,000 1948 cords wood used. 653,367 lbs. dry sugar.	Sugar as made by T. J. Packwood.
433,000 lbs. at 4 cents, \$17,320 00	433,000 lbs. at $\frac{1}{2}$ cts., \$23,815 00	Apparatus, \$10,000 550 cords wood used. 653,367 lbs. dry sugar.
153,500 lbs. at $\frac{1}{2}$ cts., 3,837 50	162,000 lbs. at $\frac{1}{2}$ cts., 5,670 00	440,000 lbs. at $\frac{1}{2}$ cts., \$27,500 00
12,857 gals. at 18 cts., 2,494 12	12,871 gals. at 20 cts., 2,574 80	193,000 lbs. at $\frac{1}{2}$ cts., 7,742 00
Total, \$23,651 62	32,059 80	11949 gals. at 20 cts., 2,389 80
Loss or saving in wood, 433 at 24 974 25	Saving in wood 995	47,500 lbs. at 6 cts., \$28,710 10
Bone black expenses, 200 00	Bone black expenses, 200 00	141,000 lbs. at $\frac{1}{2}$ cts., 6,345 00
Total, \$22,477 37	\$30,885 55	10,041 gals. at 20 cts., 2,068 20
Plantation expenses, 8,000 00	Plantation expenses, 8,000 00	37,632 30
Net proceeds, 14,477 37	Net proceeds, 22,285 55	\$37,063 20
Profit meth. 8 17,126 18	Profit, &c., 8,718 00	\$39,034 45
		Plantation expenses, 8,000 00
		Net proceeds, 31,603 55
		Net proceeds, 31,034 45
		Profit, &c., 566 10

The 5th Method is used on the Plantations of Messrs. Gordon, Johnson and Osgood, with Filters. Mr. Gordon has given up his Syrup High Steam Train on account of the great consumption of fuel, and gone back to the 3d method with Filters. Mr. Johnson has made his whole crop in Syrup Mould Sugar and sent it to New Orleans in hhd. marked A. B. and C.—sold at 7 1-4, 6 1-2 and 6 1-8. Mr. Osgood has made unsyruped hhd. Sugar which sold from 5 *a* 6, and

Molasses Sugar 3 1-2 cents per pound. This Apparatus consumed from 4 to 5 cords wood per 1000 pounds Sugar.

The 6th Method, used on the plantations of Messrs. Wilkinson, Morgan and Janin. Mr. Wilkinson's works very well and makes good Syruped Sugar—the price unknown. His hhd. Sugar sold at 6 cents per pound. This gentleman thinks that his Apparatus consumes 3 1-2 cords of wood per 1000 pounds of Sugar—the Apparatus 8000 lbs. boiling power. I am not informed if Mr. Morgan has used his two Vacuum pans this season. He took off his crop in Syrup Mould Sugar—price unknown. Mr. Janin has a splendid Refinery—having no wood on his plantation, he uses altogether coal to take off his crop. I have no exact data either of consumption of fuel or boiling power of his Apparatus, but I think he must consume nearly as much as Mr. Wilkinson, which would require 16 barrels of coal per 1000 pounds of Sugar, at 5 barrels per-cord of wood. As his Apparatus worked this year its boiling power is 25 to 50 per cent greater than Mr. Wilkinson's.

SECOND TABLE.

Showing the Value of a Crop of Cane made into Sugar by Methods 6, 7 and 8, in hhd. Sugar without being Syruped, at the prices each have been sold at this season.

15,000 to 16,000 pounds, boiling power Apparatus:			
Method 6th. Double Vacuum Pans.	Method 7th. Desgrand's Apparatus.	Method 8th. 3 pans—Rillieux's Apparatus.	Method 8th. 4 pans—Rillieux's Apparatus.
\$18,000 val. apparatus. 2,600 cords wood used	\$24,000 val. apparatus. 1,400 cords wood used	\$18,000 val. apparatus. 1,000 cords wood used	\$20,500 val. apparatus. 540 cords wood used.
800,000 lbs. first sugar at 6 cts. \$48,000 00	800,000 lbs. first sugar at 6 cts. \$48,000 00	800,000 lbs. first sugar at 6 1/2 cts. \$52,000 00	800,000 lbs. first sugar at 6 1/2 cts. \$52,000 00
235,000 lbs. sec'd sugar at 4 cts., 11,400 00	285,000 lbs. sec'd sugar at 4 cts., 11,400 00	285,000 lbs. sec'd sugar at 4 1/2 cts. 13,537 75	285,000 lbs. sec'd sugar at 4 1/2 cts. 13,537 75
15,500 gall. molasses at 20 cts. 3,100 00	15,500 gall. molasses at 20 cts. 3,100 00	15,500 gall. molasses at 20 cts. 3,100 00	15,500 gall. molasses at 20 cts. 3,100 00
Total, 62,500 00	Total, 62,500 00	Total, 68,637 75	Total, 68,637 75
Plantation expenses, &c., 10,400 00	Plantation expenses, &c., 10,400 00	Plantation expenses, &c., 10,400 00	Plantation expenses, &c., 10,400 00
Balance, 52,100 00	Balance, 52,100 00	Balance, 58,237 00	Balance, 58,237 00
Saving of wood, \$24,	1200 cords at \$24, 2,700 00	1600 cords at \$24, 3,600 00	1600 cords at \$24, 4,635 00
Net proceeds, 52,100 00	Net proceeds, 54,800 00	Net proceeds, 61,837 75	Net proceeds, 62,872 75
Profit over method 6,	Profit over method 6, 2,700 00	Profit over method 6, 9,737 75	Profit over method 6, 10,772 75

The 7th Method, Desgrand's Apparatus, built by Messrs. Allen, Stillman & Co., at the Novelty Works foundry, New York, is used on Messrs. Valcour Aime and Lapice's plantations. I do not believe the boiling power of these two apparatus over 14,000 and 18,000 lbs. sugar in 24 hours; their apparatus consumed 1 1-2 to 1 3-4 cords wood per 1000 lbs. sugar. Mr. Valcour Aime made syruped mould sugar and hhd. sugar. I am not informed of the price of sales of his sugar. Mr. Lapice made syruped tiger sugar, sent to New Orleans in hhd., marked No. 1, 2 and 3, sold at 7, 6 and 5 cents.

The 8th Method, N. Rillieux's patent three and four pan apparatus, built by Messrs. Merrick & Towne of Philadelphia, assignees of N. Rillieux's patent, is in use on the following plantations: Three pan apparatus on Mr. S. Packwood's, 12,000 lbs. apparatus; Mr. Lesseps, two apparatus of 12,000 lbs.; Messrs. Murphy & Gardanne, one of 6000 lbs.; Messrs. Chauvin & Levois, one of 9000 lbs.; Mr. Camille Zeringue, one of 9000 lbs.; Mr. Theodore J. Packwood, one of 16,000 lbs.; four pan apparatus on Messrs. Benjamin and Packwood's, 18,000 lbs. apparatus; Messrs. Armant and Brother 24,000 lbs. apparatus.

The boiling power of all these apparatuses is 1-3 greater than their nominal power. Mr. T. J. Packwood's Three Pan Apparatus consumed this season 9-10 cord of wood per 1000 pounds Sugar—Mr. Lesseps Two Apparatus 1-1-4 cords wood per 1000 pounds Sugar—Messrs. Armand and Brother's Four Pan Apparatus 2-3 of a cord of wood per 1000 pounds Sugar.

Mr. T. J. Packwood has made this season the best unsyruped hhd. Sugar—his first Sugars sold at 6 1-2 cents, his Molasses Sugars 4 1-2 a 5. Messrs. Benjamin and Packwood have made the best Syrup Tiger Sugar, sold at 8 cents per pound, and I have been told that Messrs. Armand and Brother made the best Syrup Mould Sugar.

The first table shows the result of a crop which, by the set of kettles, gives 433,000 pounds of Sugar—taken by methods 1, 2, 3, 4, 5 and 8—the worst method is the 4th; the last line of the table gives the profit by method 8 over each of these, and allowing a deduction of \$2000 for the vacuum pan already in use in method 3 and 5, the profit of one crop exceeds the entire cost of N. Rillieux's apparatus.

The second table shows the proceeds of a crop of 800,000 pounds of first Sugar, taken by methods 6, 7 and 8, in unsyruped Sugar—such a crop requiring a 16,000 pounds boiling power. The profit over method 6, by method 7 and 8—three and four pan Apparatus—are \$2,700, \$9,737 75 and \$10,772 75. But, in supposing by some improvement and better management, each method could give the same crop, as well in quantity as quality, then the difference will be only in the saving of fuel; and the yearly profit of 7 and 8—three and four pan Apparatus—over method 6, will be only \$2,700, \$3,600 and \$4,635. And, allowing that capital invested in apparatus ought to return 20 per cent, those last Apparatus are worth \$13,500, \$18,000 and \$23,175, more than Apparatus of 6th method. Therefore, if a double vacuum pan Apparatus of 16,000 pounds boiling power is worth \$18,000, then comparatively a Desgrand of same power is worth \$31,500, and a three pan N. Rillieux apparatus of same power \$36,000 and a four pan N. Rillieux apparatus of same power \$41,175.

If a Desgrand apparatus of that boiling power costs \$24,000, then the price of a double vacuum pan comes down to \$10,500 and N. Rillieux's three and four pan apparatus to \$28,500 and \$33,675.

If N. Rillieux's three pan apparatus costs \$18,000, then the double pan are worth nothing, the Desgrand's \$13,500 and N. Rillieux's four pan apparatus \$23,175.

If a 16,000 lb. boiling power of N. Rillieux's four pan apparatus costs \$20,500 then the double vacuum pan apparatus set up ought to be given for \$2,675 less than nothing, the Desgrand's for \$10,825 and N. Rillieux's three pan apparatus for \$15,325.

Mr. Wilkinson's 8000 boiling power double vacuum pan apparatus has been built by that gentleman in adding part to part, but it would cost if made now at once, and set up, \$12,000; it consumes 3 1-2 cords of wood per 1000 lbs. Sugar. A 6000 lb. N. Rillieux's three pan apparatus of 8000 lb. boiling power, costs, set up, \$10,000, and saves 2 1-4 cords of wood per each 1000 pounds Sugar—making a saving on a crop of 400,000 lbs. Sugar, 400 at 2 1-4 cords of wood at \$2 25 per cord, \$2,025; say \$2000, at 20 per cent.—then 6000 pound three pan N. Rillieux Apparatus is worth \$10,000 more than Mr. Wilkinson's double vacuum pan apparatus.

If, as I believe, the foregoing is correct, and if an outlay in apparatus should give as much as 25 per cent. yearly, then you perceive that at the price Messrs. Merrick & Towne sell the "Rillieux Apparatus," preference should be given to the double vacuum pan apparatus, only if they can be had already set up for nothing, and Desgrand's Apparatus is only worth half the price of Rillieux's four pan, and three-fourths of the price of Rillieux's three pan apparatus, of same boiling power.

Respectfully yours,

N. RILLIEUX.

RILLIEUX'S METHOD.

NOTE.—Other results have been furnished than those above afforded. Elihu Thomson, Engineer, who took off the two last crops of Messrs. Armand & Brothers, with a 24,000 pound Rillieux four-pan apparatus, says, that they have run it at the rate of 32,000 pounds in twenty-four hours with perfect ease; and, that on a trial made in presence of Mr. Valcour Aime's Engineer and others, on

the 5th of January last, they proved by actual measurment that the consumption of wood was but one half cord per 1000 pounds Sugar. Mr. C. G. Allen, the Engineer who took off the last two crops for Mr. Camille Zeringue, with a 9000 pound N. Rillieux three-pan apparatus, says that they made 21,000 pounds first Sugars and 3,500 pounds second Sugars in forty eight hours. Mr. Lesseps' 12,000 pound N. Rillieux three-pan apparatus has made 16,000 pounds first Sugars and 6000 pounds Molasses Sugars in twenty four hours. And similar results have been produced with other of these Apparatus.

In turning to the last Report of Professor McCulloh, to Congress, we find the following passage, which, in this co[n]nection, is worthy of insertion.

"The use of the latent heat of the vapor from one portion of syrup, for the evaporation of another portion, has been accomplished far more perfectly and fully by an apparatus invented by N. Rillieux, of New Orleans, than by the system of M. Derosne. This apparatus has also the merit of being simpler, and therefore more easily constructed or repaired, so that it is less expensive, and less liable to derangement. It may now be considered as fully tested, and as perfectly successful; so that it may be adopted with entire security and certainty of results.

"The distinctive feature of N. Rillieux's system may be said to be the successive use of latent heat for the evaporation of syrups, by a series of similar boilers or close evaporating pans—each being heated by the vapor from the preceding one, and in turn furnishing heat to the succeeding boiler. The first series is heated by high steam from the boiler of the steam-engine used for grinding the cane, and the last used as a vacuum pan for concentration. The vacuum is produced by means of an air-pump worked by the steam-engine. Any one of the series of boilers, at pleasure, may also be connected directly with the steam-pipes, by means of cocks and tubes suitably arranged: so that it may at any moment be heated by high steam if desired. The boilers are cylindrical, and are heated by numerous internal tubes; they therefore resemble somewhat the boiler of the locomotive engine as at present usually constructed. The series consists of either three or four boilers; but the number might be extended, if the increase would give sufficient additional advantage to render it expedient. (Plates V, VI, and VII, and the descriptive text, will give an accurate idea of this system.)

"This apparatus is constructed by Messrs. Merrick and Towne, of Philadelphia, machinists of established reputation for intelligence and superior skill, and who have become the assignees of Rillieux's patent. To the excellence of the workmanship of these gentlemen, no less than to the merits of the system itself, is to be attributed its entire success.

"The beauty and superior grain of the sugar manufactured by those who have adopted Rillieux's train does not depend, however, upon the merits of that train alone. The juice, after defecation with lime in defecators similar to those employed by the beet-sugar makers of France, is filtered first through cloth, and then through boneblack; after which it passes successively into the first, second, and third boilers. In the third boiler it is concentrated to 27 deg. Beaumé; and it is then again filtered before it enters the fourth or last pan, to be evaporated in vacuo. The filters employed are the leaf filter of Lovering, and the filter Dumont. If a train of three boilers be used, then the juice is concentrated to 27 deg. in the second, and evaporated in vacuo in the third. From the above, it is evident that Rillieux adopts the method employed in France for clarifying beet juice, and which M. Derosne has applied successfully to the juice of the cane in the West Indies as above mentioned. And if the juice be thus treated, a perfect article will, as already stated, be manufactured from it by evaporation in vacuo, whatever may be the vacuum pan employed. While, therefore, we must ascribe to N. Rillieux's system of boilers the advantage of superior economy in the use of fuel, and to the apparatus, as executed by Messrs. Merrick and Towne, the merit of simplicity, and consequent perfection of mechanical arrangement, as well as of excellent workmanship, we yet must consider other systems as equally capable of producing sugars of a perfect quality in grain and color, provided they be properly combined with filtration and use of boneblack.

"To planters who are obliged to depend greatly upon the begassa of the crop for their supply of fuel, Rillieux's system presents great advantages over all others; for the economy of fuel is so great in it that the begassa alone is amply sufficient for the crop, even in Louisiana where the immature nature of the cane and the humidity of the climate are far less favorable for drying begassa, and where, therefore, this article is much inferior to that used in the West Indies. But if fuel be abundant, an open steam evaporating pan for concentration to 27 deg. Beaumé, and a simple vacuum pan, either that of Howard or that of Rillieux, will give equally satisfactory results; the juice being in each case similarly defecated and filtered through boneblack.

"When in Louisiana I visited the plantation of Messrs. Benjamin and Packwood, at their invitation, and carefully examined the apparatus of Rillieux, constructed for them by Messrs. Merrick

and Towne. From what I learn from those intelligent gentlemen, as well as from what I then saw I can bear witness to the entire success of the system."

VI.—COTTON BALED WITH IRON HOOPS.*

NEAR YAZOO CITY, January, 1848.

J. D. B. DE BOW, Esq.

A correspondent of the Review, in the December Number, writing from Bureau, Alabama, over the signature of "An Alabama Planter," communicates what purports to be a letter from a mercantile house in Mobile, (without any signature) on the subject of Banding Cotton Bales with *Iron Hoops* instead of *Rope*, and he makes a personal request of me that I would reply to that communication, because he thinks it defective in its reasonings on the subject; and he is pleased to do me the honor to suppose that I am practically acquainted with the question in hand.

I could not consent to make a public reply to the Mobile letter, without expressing an opinion adverse to its authenticity. I suppose your friend in Alabama has been imposed upon by means of a spurious letter. No merchant in Mobile can, upon reflection, entertain the views therein expressed; nor can any man, whether he has ever seen a bale of cotton or not. For instance, the letter says:—"All cotton is pronounced unmerchantable that has other than good *grass* or *hemp* ropes on it." Cotton cordage is used for this purpose to some extent, and it is known to be superior or a least as good as hemp or grass. (It is superior only because if exposed to the weather a long time it will last without rotting much longer) and I presume it is difficult to conceive why cotton, if offered for sale in Mobile in *cotton ropes*, should be pronounced "unmerchantable."

Again the letter says that, "in loading a ship, the cotton is driven by means of jack-screws so tight that iron hoops would break." An expansive pressure from the inside of the bale outwards, would, I should suppose, cause the hoops to break if they were not strong enough. But I should hardly think that a pressure on the outside of the bale would produce the same effect.

The entire paragraph from which the last quotation above is taken, reads as follows:

"Could you even put up your cotton in the size of compressed bales, we think it would be best to use hemp ropes. In loading a ship the cotton is driven by means of jack-screws so tight that iron hoops would break—where rope would only be loosened and removed a little, and when the cotton is turned out the expansion immediately fastens the ropes again—even though cotton is compressed as well as can be done; in stowing ships it is often driven so hard, by means of jack-screws, that ropes are loosened, and shippers say that the iron hoops would break."

A very great advantage of iron hoops over rope, in banding cotton bales, is well known and has always been admitted to be, that the bales are much easier handled, particularly in loading and unloading vessels, and the above paragraph from the Mobile letter was intended, I suppose, to set forth, ironically, this advantage. In stowing ships with cotton a great number of bales have to be dragged endwise, upon other bales, half the length of the hold or more; and in finishing, not a few have to be driven, by means of jack-screws, a long distance into apertures scarcely large enough to receive them. The outward pressure of the bale (up and down as it lay in the press, for there is very little sidewise) causes it to swell an inch over the band, on the two sides which may be called the top and bottom. The two other sides of the bale (of cotton in ropes) has, of course, a very uneven surface—the ropes on one side and ropes and knots on the other. In driving these bales into a small hole between other bales, with like ropes and knots, they frequently hitch against each other, the knots become torn loose and the ropes dragged off. This is what the letter, in the jesting pleasantry of the writer, alludes to in saying "the ropes are loosened."

* For the convenience of those desirous of consulting, we will make a brief index of all the references to the subject of Cotton, its Culture, its Manufacture, etc., in the volumes of the Commercial Review already published. Vol. I, p. 73, 74, 230, 274, 231, 234, 363, 387, 237, 283, 291, 307; vol. II, p. 133, 279, 135, 139; vol. III, p. 1, 18, 340, 439, 537, 542, 583, 445; vol. IV, p. 394, 256, 87, 250, 235, 544, 558, 525, 511; vol. V, p. 75, 163, 186, 189, etc., etc.—EDITOR.

All these inconveniences are, of course, avoided by the use of hoops. From conversations I have had with ship masters and mates, and other authentic information *from them*, I have been surprised to learn that in consequence of the difficulties above alluded to, it is by many said to be double the labor to stow a ship with cotton in ropes that it would be with bales in hoops.

The letter again says: "A few years ago a lot of cotton came to this port with iron hoops, but it was pronounced unmerchantable, because in compressing, the hoops had to be taken off and ropes substituted."

"In compressing?" I thought the principal object in putting cotton in iron hoops, was to put it into *shipment size* at once. It certainly would be very unwise to put iron hoops on bales which would have to be re-pressed.

Your correspondent is certainly correct in supposing we can make our bales in good shipping size on the plantation, and thus entirely avoid the expense of re-pressing. And we can, at the same time, secure other advantages. One of which is the facility in loading vessels, and consequent lessening of freight. I had a conversation with several ship masters on this subject, the last time I was in Mobile, who were then taking in cargoes of cotton at that port. They expressed the uniform sentiment I have invariably heard from *that quarter*, viz. an unqualified wish that iron hoops would take the place of ropes upon cotton bales; and a readiness to take cotton in hoops at reduced rates of freight, on account of the greater ease with which they can stow and unload their ships, and the greater security from loss by fire.

If there is a mercantile, or any other, objection to the use of iron hoops on cotton bales, it ought to be fairly and seriously stated, and if there be none, then every planter ought to use them. I am well persuaded there is none, except that it is adverse to the interest of those who are connected, directly and indirectly, by sympathy, friendship, and otherwise, with the steam cotton presses at the import cities.

It ought to be remarked, however, that bales may be so banded with hoops, and no doubt frequently are, as to be unfit for shipment. I once saw a lot of cotton in Yazoo City, banded up in iron bands in so awkward and clumsy a manner, that the cotton ought to have been pronounced "unmerchantable," whether it was or not. When I speak of cotton in hoops, I mean that the bales are to be of the size they come from the steam presses—say 22 to 24 square, and 4 feet 6 inches long—the hoops of proper size and well riveted. The process of putting them on is very simple, and much faster than tying ropes. I would willingly communicate directly with your correspondent on this, or any other subject connected with "our craft," and interchange any useful information.

Very respectfully, yours, &c.

R. ABBEY.

VI.—RILLIEUX'S SUGAR MACHINERY.*

J. D. B. DE BOW, Esq.,

I beg leave to call your attention to some important points for the consideration of the sugar planters. Professor McCulloh in his last report to Congress, on the subject of sugar making, says on page 86: "To planters who are obliged to depend greatly upon the bagasse of the crop for their supply of fuel, Rellieux's system presents great advantages over all others; for the economy of fuel is so great in it, that the bagasse alone is amply sufficient for the crop, even in Louisiana, where the immature nature of the cane and the humidity of the climate are far less favorable for drying bagasse, and where, therefore, this article is much

* We received this letter from Mr. Rillieux since the insertion of the paper relating to his apparatus, etc. It is proper that the reader should have all the information that can be obtained. The subject is full of interest. Mr. Rillieux requests us to insert the name of Maunsel White among those who use the "vacuum pan as a strike pan," it having been left out by mistake. He also suggests a mistake in estimating the power, cost and capacity of Messrs. Valcour Aime and Lacle'e's machinery, viz: the power should be 14,000 lbs.; 24,000 in twenty-four hours; cost \$4,000 and \$30,000. It is scarcely necessary for us as editor of this Review, to say that we are willing to hear the whole truth in every matter, and keep our paper open to either side.—EDITOR.

inferior to that used in the West Indies. *But if fuel be abundant, an open steam evaporating pan for concentration to 27 degrees Beaume, and a simple vacuum pan, either that of Howard or that of Rillieux, will give equally satisfactory results; the juice being in each case similarly defecated and filtered through bone black.*"

Since Mr. McCulloh was in Louisiana many apparatus have been used, and among them the kind above referred to by Messrs. Gordon, Johnson and Osgood, and the result is far from being as satisfactory as by the "N. Rillieux's Apparatus." The sugar is inferior in quality and the consumption of fuel is from 15 to 25 per cent. greater than by the common set of kettles. It is true, however, that such apparatus or a double vacuum pan apparatus, if properly built, will give as good and as much sugar as the Rillieux's, and consume no more wood than a good set of kettles. But neither Professor McCulloh nor any other writer on Sugar Apparatus has yet pointed out the indispensable requisite to obtain such a result; and the apparatus built in this or any other country are a positive proof that the builders are not aware of this requisite. Now I will endeavor to come to a true estimate of the relative value of these apparatus of the same boiling power, giving the same quantity and quality of sugar. One an open steam evaporating pan and strike vacuum pan—one double vacuum pan apparatus—and a N. Rillieux's three pan apparatus. Thus:

Lowest estimated cost of 1st and 2d 8000 lbs. boiling power apparatus, as compared with a 3 pan N. Rillieux apparatus of same boiling power.

8000 lbs. boiling power.	Sufficient to take off a crop of 440,000 lbs. first sugar.		
	Apparatus 1st. Open Steam Pan and Strike Vacuum Pan.	Apparatus 2d. Double Vacuum Pan.	Apparatus 3d. 3 Pan N. Rillieux.
Consumption of wood per each 1000 lbs. of first sugar - - - - -	3½ cords	3½ cords	1½ cords
Consumption for the whole crop - - - - -	1540 cords	1540 cords	550 cords 990 cords wood (@ \$2½ - - \$2,297 50)
Saving of wood by N. Rillieux - - - - -	—	—	—
Clarifiers - - - - -	\$800	\$800	3 \$840
Filters - - - - -	6 600	6 600	6 750
Vats for filtered cane juice and syrup - - -	2 wood 100	2 wood 100	2 iron wrt. 250
Boiling apparatus	{ Open steam pan } Vacuum pan - - -	1 800 1 1,500 2 3,000	— — 3 5,100
Air pump and connect'n to the mill engine - - -	1 300	1 500	—
Pumping engine - - -	100 feet 32 in. boilers; wanted besides the mill engine boilers, with pipes, valves, &c.	1,500	1,500
Cast iron and copper conn'g pipes for app., cocks, valves, &c.,	600	800	800
Cost of setting up - - -	300	300	400
Total - - - - -	— \$7,400	— \$7,500	— \$10,000 00
Brick work for setting 4 40 feet x 32 inch boilers, furnace and chimney, 80,000 bri'ks	800	800	—
Lime and laying - - -	200	200	—
Fixing the mill engine furnace and founda- tion for the pumping engine - - - - -	—	—	300
Carpenter's work - - -	300	500	500
Total - - - - -	— 1,500	— 1,500	— 800 00
Whole cost - - - - -	— \$7,900	— \$9,000	— \$10,800 00
Fuel saved first crop - - -	—	—	— 2,297 50
Actual cost of the app. after the first crop - - -	\$7,900	\$9,000	\$ 8,572 50

The above table shows the prices of the three different apparatus, each of 8000 lbs. boiling power, set up, including brick work and carpenter's work, to be \$7,900, \$9,000 and \$10,800. Now the saving of fuel by the last apparatus on the first crop of 440,000 lbs. of first sugar is \$2,227 50, and if this saving be credited to the price of that apparatus, then they stand thus: \$7,900, \$9,000 and \$8,572 50; and the 3 Pan N. Rillieux Apparatus costs less by \$427 50 than the Double Vacuum Pan Apparatus, and \$657 50 more than the Open Steam Pan and Vacuum Pan Apparatus after the first crop. And if 20 per cent. be a fair return for outlay in apparatus, then the 3 Pan N. Rillieux Apparatus, which saves annually \$2,227 50 in fuel, is worth \$11,137 50 more than the two other apparatus. The price of a "N. Rillieux" 3 Pan 8000 lbs. Boiling Power Apparatus, set up complete, including the brick and carpenter's work, being \$10,800, the others are worth, set up, brick and carpenter's work included, \$337 50 *less than nothing*—and if the planter has to pay for the brick and carpenter's work as usual, then the builders of those two apparatus ought to give them, set up complete, and \$1,837 50 besides, to the planter, to put him in the same economical situation as if he had purchased the N. Rillieux Apparatus.

Yours, Respectfully,
N. RILLIEUX.

MONTHLY COMMERCIAL SUMMARY.

INFLUENCE OF BRITISH TRADE UPON AMERICAN PROSPERITY; AMERICAN STATE STOCKS AND FINANCES; REVENUE OF THE UNITED STATES AND EXPENDITURES; IMPORTS AND EXPORTS PORT OF NEW YORK; BRITISH FINANCIAL AFFAIRS; CONSUMPTION AND MANUFACTURE OF COTTON; BRITISH CORN TRADE; AFFAIRS OF ENGLAND, ETC.

March.—The extreme pressure of the money market, growing out of this condition of affairs in England, has apparently passed, and affairs present the aspect of returning ease. The past year has been fruitful of experience, and the prospect for the coming year is now better for the planting interests than the last few months have promised, but not so much so for the farming interest in comparison with its great prosperity in the past year. We have on former occasions adverted to the general condition of England, in regard to the connection of its financial and industrial interests, with the welfare of American producers; it is necessary to bear in mind the leading features of the English markets, since their connection with, and influence upon, those of the United States have been far more intimate, and powerful, than was generally anticipated. It has become evident that a rapid change of employment among any considerable mass of persons, in England, is productive of the greatest results on American producing interests. As thus, until last year, there were employed in the cotton manufacture of Great Britain 724,000 persons including all its branches; of the articles produced by these persons valued in round numbers at £13,000,000, say \$200,000,000; 40 per cent. only, or \$80,000,000, was consumed at home, the remainder, \$120,000,000, was exported to all parts of the world, in payment for such raw material and foreign produce as was necessary for British consumption. This employment, in connection with various other branches of British industry, producing an equal exportable value, was the means by which the wants of the country from abroad were supplied. A large portion of the other industry of Britain is applied to the production of food and necessaries for the supply of these manufacturers of exports, but the earnings of all artisans are not usually such as to enable them to purchase as much food and foreign produce as their necessities require. During the past year 570,000 persons, being two-thirds of the number of those employed in the cotton trade, were taken from their usual occupations and employed upon rail roads, in England, at extra wages. In Ireland, pursuant to the relief movements of the government, the number of persons employed upon public works was raised from 118,000, in October 1846, to 734,000, in March 1847 this number, with their dependants, constituted one half of the population of Ireland, living at the government expense. The English rail road expenditure gave the people means of buying largely of food and foreign produce, while they were producing nothing that could be exported in return. While, in Ireland, the large sums expended in

wages to laborers, were used in the purchase of foreign breadstuffs and produce, until March 1847, when the necessity of discharging the laborers from the public works in Ireland, in order that they might return to agricultural employments and produce food, instead of making roads, was apparent and the government discharged them at the rate of 20 per cent. per month, until, in July, the government expenditure had ceased. The labor of these persons upon public works was nearly thrown away, it produced neither floating nor fixed capital, and their sustenance was per force drawn from abroad, when re-applied to agricultural pursuits it was rewarded with a fair average harvest, by which the supply of food, for the present year, has been considerably increased. In England the growing pressure for money caused great numbers of persons to be discharged from the rail ways, and the effect was, if not immediately to return them to active employments, to deprive them of the means of consuming largely of foreign produce, and thus favorably effecting exchanges. This decreased consumption is indicated in the returns of taxes upon consumable articles as embraced under the heads of customs, excise and stamps, for the quarter ending January 5, 1848, as follows:

BRITISH INDIRECT TAXES.

Quarter ending Jan. 5.

	Stamps.	Excise.	Customs.
1847	1,740,687	3,608,155	4,514,721
1848	1,564,855	3,246,883	4,111,862
Decrease	176,232	361,272	402,859

This is an important decrease, and shows the extent to which the late money pressure has begun to effect the means of the people, in respect of their ability to buy comforts, and those necessaries of which imported food forms a large item. While their ability, to consume largely, is thus reduced, the supply of home grown food, both in Ireland and England, has considerably increased, and the old sliding scale of duties takes effect, March 1st, against that of foreign origin. The duty at present prices is 4s per quarter on wheat, and 2s 6d per bbl. on flour. The leading facts, in respect to food, are these, that while the home supply is larger, both in England and Ireland, the consumption is somewhat lessened by the want of employment, which the money pressure occasioned in most industrial interests, particularly cotton, iron and rail ways, and therefore, that the demand for food, particularly from the United States, is considerably less. This however, is not a permanent state of things. Money in England has indeed, become very plenty, at a moment when labor is very cheap, and prices of produce very low. This is necessarily a turning point in affairs, because all enterprises will, under such circumstances, be resumed, and the tendency again be rapidly to enlarge the consumption of produce. More particularly, that, it is to be remembered, a radical change has taken place, to a considerable extent, in the staple food of Ireland. Heretofore Potatoes were almost the sole dependence, but the necessities of the past year have contributed to overcome the strong prejudices which had existed to the use of Indian Corn, a curious instance of this is given in an English official report, which we think illustrative of the influence which the distress of the past year is likely to have upon the future consumption of United States corn:

"Previous to the sale of meal being commenced, I placed a small portion in the hands of Father Keeny, he tried and approved it; and in order to overcome any feeling against it, subsequently, with his two curates, all but entirely lived on the meal made into bread and stivabent, for nearly a fortnight, using all his influence to convince the people the pernicious effects ascribed to it were untrue. The success attending this measure is quite unnecessary for me to allude to; and the merchants profiting by the example, commenced a trade new to them, by importing the article. The Society of Arts awarded a gold medal to Mr. O'Brien, Baker, of Dublin, for the attention paid by him to the introduction of cheap popular modes of preparing Indian Corn for use; and tons of thousands of pamphlets and printed sheets were distributed through the commissariat containing instruction for cooking Indian Corn. Those who know how difficult it is to induce a large population to change their habits, will be surprised at the success which attended these efforts. The "yellow meal," as it is called, was first known as "Poel's brimstone," and it was remembered that the attempts to introduce it, in a former season of distress, occasioned a popular commotion, arising from the absurd notion that it had the effect of turning those who ate it black."

By these means Ireland has become thoroughly innoculated with Indian Corn, and the demands for the article must annually increase. It will be remembered that last year, when the demand was largest, the quantity that could be furnished from the United States was restrained by want of the means of transportation, internal and external. Of the price, 64s per quarter, which corn then commanded in England, 20s was paid for freight. Of the 34s for which it now sells, the freight is 4s only. One of the greatest difficulties encountered in the change from potatoes to corn diet, was the absence of the means of *grinding*. These had to be created as consumption was extended. All the English government admiralty mills were employed grinding corn for Ireland, and all available vessels, not excepting the Yachts, were employed in carrying meal from the mills to the depots for distribution, and small mills imported from France, as well as large quantities of hand mills, were distributed quarterly. These are some of the great results brought about in one year, that might otherwise not have been effected in half a century. The machinery of the trade for importing corn into, and distributing it, in Ireland is established, and means of grinding are being rapidly supplied, while the taste for the food is daily acquiring new strength among the people. Simultaneously with this movement such great reforms are being made, in the relation of landlord and tenant, as to afford the people such employment as will enable them to buy the corn. A very essential point. We have thus dwelt upon the features of the Irish market, because we regard it as pregnant with a very important future influence upon the exports of the "great valley."

The effect of the circumstances of British industry, to which we have called attention, has been very marked on the article of cotton. The following figures will show the consumption of cotton in Great Britain, and its distribution.

	1845.	1846.	1847.
Consumed -	lbs. 592,581,600	598,260,000	439,277,720
Waste in spinning 1 3-4 oz. per lb.	64,813,612	65,434,687	48,046,000
Net weight of yarn, etc.	lbs. 527,767,988	532,825,313	391,231,720
Exported in yarns and threads,	lbs. 136,618,643	159,401,482	119,422,254
" per weight of yarn,	221,032,974	217,693,617	191,969,597
Home consumption, "	170,116,371	155,830,214	79,839,869
Total production -	lbs. 527,767,988	532,825,313	391,231,720

The most important decline is in the quantity taken for home consumption, a fact which is anomalous when we reflect that all other articles were so increased in consumption by rail way expenditure, tea, coffee, etc., etc., in particular. It is generally accounted for from the fact that it is not an actual falling off of one half in goods really purchased by consumers, but a reduction in the stocks of the shop-keepers, caused by the rail way mania, which effected all classes of society, and when shop-keepers were compelled, in the face of a stringent market, to pay up instalments on shares, under pain of forfeiture, they did so out of their stock in trade. They kept their rail way shares good, but could not also replenish stocks. A returning ease in the market may cause them to replenish, more particularly as the we have said that all the elements of production are more favorable to cheap goods. It must be remembered that while the demand for goods has been thus cut off, the manufacturers have been obliged to pay more for cotton than usual. The value of the goods produced has been computed as follows.

	1845.	1846.	1847.
Exported declared value yarns -	£ 6,963,235	7,873,727	5,867,000
do. do. goods	19,156,096	17,726,966	17,100,000
Consumed -	19,610,657	16,881,605	9,500,000
Value of production,	£45,729,988	42,482,298	32,467,000
Cost of cotton, -	43d. lbs 10,802,269	5d. 12,463,750	6d. 11,688,314
Excess of value of goods	£34,927,719	£30,018,548	£20,798,686

This has been a serious result to the manufacturing interests while they paid £1,000,000 more for cotton, they got £14,000,000 less for goods, notwithstanding

the well known fact that when cotton is dear the quality of goods is very much deteriorated. The decrease in the quantities of goods and yarns exported has been as follows: 40,335,000 lbs. yarns, and 122,979,938 yards plain calicoes, and this decrease would have been much greater but for the improved business for the United States. The present state of affairs, therefore, promises well for the cotton trade for the present year, the raw material was never lower, and if to small stocks of goods in the shops is added the usual effects of cheap food in promoting the consumption of clothing, a greatly enhanced consumption may be looked for, notwithstanding a revival of the rail way expenditure.

In England the supply of food, as we have said, is good, but the cheapness of money, by stimulating anew those enterprises that enhance its consumption, may sustain the price. At the close of October the minimum rate of money in London was 8 per cent. per annum, and the amount of bullion in the Bank £8,000,000; at the close of January the bullion had risen to £12,000,000, and the Bank minimum rate of money had fallen to 5 per cent., while out of doors money could be had at 3 1-2*24* per cent. This change had been brought about by several causes, of which the paralyzation of industrial employments diminishing the consumption of imported articles, to which we have alluded, the non-payment of large amounts of bills running on England, and kiting of the London houses, are the three principles. The latter was, probably, the most efficient. When money was 8*24* per cent. in London, it was comparatively cheap in all other leading cities of the world. The leading mercantile and banking houses of London having their branches and connections in all the leading cities throughout the commercial world, easily make the markets of those cities subservient to that of London, more particularly that steam and increased means of communication afford facilities that formerly were not enjoyed. The moment a crisis is approaching, in England, the agents of the London houses, all over the world, extend their obligations, each in the sphere of its influence, and obtaining gold for the proceeds ship it to London, where, in a few weeks after this machinery is put in motion, gold pours in from every point of the compass, strengthening the leading houses, filling up the coffers of the Bank, and renewing its ability to loan. In New York, common with most cities of Europe, the paper of those houses selling at more than 1 per cent. per month—and every packet took the proceeds, in gold, to England. The £1,000,000 of increase in bullion from October to January, shown in the Bank returns, was made up mostly of these kiting operations. The effect of which is to make money cheap in London, and dear in all other commercial cities. The hope indulged in is, that the exports of England will increase while its imports diminish, and that by this means the gold will not return whence it came, but be paid for in British exports. This, to a considerable extent, will be the case no doubt. The imports now being made into the United States are large, and may be considered to have been paid for in advance in the manner described. For the 35 days ending with the 4th of February, the imports and duties at the port of New York were as follows:

IMPORTS AND DUTIES PORT OF NEW YORK.

	Specie.	Free Goods.	Dutiable.	Total.	Duties.
1846	- - -	43,221	456,003	5,765,421	6,267,245
1847	- - -	100,098	506,118	6,431,006	7,027,222
1848	- - -	157,209	433,527	10,931,768	11,422,404

This has been a large importation, and to some considerable extent on foreign account, to raise money. The amount of goods appears not to have been such as to oppress the market, but the prices remain firm under an active spring business, in the course of which exchanges fell and money became easy. The revenues of the government were very large, and had the best influence upon the price of government securities. The price of Treasury Notes fell at the close of December to about 98 1-2, but as very nearly \$2,500,000 were paid into the New York custom house for duties, the rates again advanced to par, in face of an impending loan of \$16,000,000. These operations, at the port of New York, are an indication of the general movement throughout the country, and manifest a strength of resource for which the Federal Government has not had full credit.

The following are receipts and expenditures of the Federal Government for the first six months of the fiscal year 1848, as compared with the corresponding period of the previous year.

UNITED STATES RECEIPTS AND EXPENDITURES.

1846.

1847.

	Quarter ending Sept. 30.	Dec. 31.	Total, 6 mos.	Quarter ending Sept. 30.	Dec. 31.	Total, 6 mos.
Customs	6,153,836	3,645,965	9,799,801	11,106,257	5,337,874	16,444,131
Lands	663,702	3,9,545	1,063,247	832,769	908,963	1,741,725
Miscellaneous	35,011	16,000	51,011	15,670	48,500	64,170
Total regular	6,832,549	4,061,510	10,914,059	11,954,687	6,295,339	18,250,026
Loans	1,953,950	7,359,750	9,313,700	5,255,700	2,012,450	7,268,150
Total receipts	8,806,499	11,421,260	20,227,759	17,210,387	8,307,789	25,518,176
EXPENSE.						
Civil list	1,644,271	2,057,887	3,702,158	1,120,453	1,641,053	2,761,506
Army	8,153,059	6,891,770	15,045,429	9,186,406	3,216,518	12,402,924
Fortifications, &c.	463,627	145,884	608,511	109,158	80,060	189,225
Indians	8,27,880	221,888	1,049,768	691,795	5,162	696,937
Pensions	962,757	28,739	991,496	582,332	6,576	588,908
Navy	1,969,980	2,099,787	4,069,767	2,384,805	2,649,749	5,034,554
Interest, &c.	67,484	1,508,634	1,576,138	624,190	1,706,793	2,330,947
Redem'n of debt	14,088,658	12,954,600	27,043,267	14,699,139	9,305,918	24,005,0

The receipts for the six months compare as follows:

	Customs.	Lands.	Miscellaneous.	Loans.	Total.
1846 - - -	\$9,799,801	1,063,247	51,011	9,313,700	20,227,759
1847 - - -	16,444,131	1,741,725	64,170	7,268,150	25,518,176
Decrease	.....	.....	.....	2,045,550	.....
Increase	\$6,644,330	678,478	13,159	.....	5,290,417

The item "loans" represents the amount realised within the quarter on heavy notes and instalments called in on loans previously authorized. It is observable that while the revenue from regular sources increased for the six months near \$8,000,000, there was less borrowed by \$2,045,550. In the last month of 1846 the present tariff was in operation, but it will be observed that the revenues from that resource exceed those of last year by the important figure of 80 per cent. It will also be observed that in the same period the expenditure of the Treasury has been diminished by \$3,000,000, of which \$2,500,000 was on account of the army proper. This increase of regular revenue, and diminution of expense, made a difference of near \$11,000,000 in the amount of the loans. The estimate of the Secretary, in his annual report, for the revenues and expenses of the fiscal year 1848, was as follows:

	1st quarter Actual.	3rd quarter Estimates.	Total.
Customs	11,106,257,41	19,893,742,59	31,000,000
Lands	896,893,47	2,603,116,53	3,500,000
Miscellaneous	58,533,47	341,466,53	400,000
Total	12,061,684,35	22,838,325,65	34,900,000

Of this \$19,893,742,59 estimated for three quarters, \$5,337,874 was received in the December quarter, and is probably the largest collection ever made in that quarter, it leaves \$14,555,868 to be collected in the remaining six months. The collections for the corresponding period of 1847 were from customs \$13,365,000, but as we have seen above the collection for the first five weeks of those six months exceed those of last year 80 per cent., should this proportion hold, the customs for the fiscal year 1848 will be \$40,000,000, and the whole revenue will exceed the estimates by near \$10,000,000, so flourishing are the sources whence the Treasury derives its means.

The debt of the Federal Government on the 1st December, 1847, amounted to \$45,659,659, of which about \$14,000,000 was afloat as Treasury Notes, but convertible into stock, having 20 years to run, at the pleasure of the holder. The whole amount of debts authorised under existing loans \$53,268,118, and the bill before Congress for \$16,000,000, in addition, will raise the amount in round num-

bers \$70,000,000. This would appear to be a large debt, and calculated to produce uneasiness in relation to its effects upon the markets and upon the revenue of the government, more particularly that it bears \$4,200,000 of annual interest, more than equal to the revenue of the public lands, which are pledged for the redemption of the debt. The amount of debt which the market can bear, depends to a considerable extent upon circumstances. The debt, as we have stated, is now over forty-five millions, and yet in the midst of an intense money pressure its price keeps at par in New York. There is an element at work, however, which will create a demand for a much larger quantity of national stock than the amount here put down. We allude to the progress of what is called at the north "free" or stock banking. In the State of New York there are two systems of banking, the old chartered, the creation of which is prohibited by the constitution, and the "free banks." The former issue \$19,000,000 of circulation not secured, and the latter secured on mortgage, United States stocks and \$8,000,000 of New York State stocks. The charters of the old banks, most of them, expire in a few years, and they can continue business only by pledging stock for their notes. The debt of New York amounting only to \$18,000,000, however, under the new constitution is to be paid off in a few years, \$4,000,000 is to be paid this year, and as the free banks already hold \$8,000,000, there will remain but \$6,000,000 for banking purposes, and the amount will decrease annually by payments. Under this system New York alone will, in a few years, require \$30,000,000 of United States stocks for banking purposes. This system has also become popular in all the States, and as the severe lessons of the past are rapidly losing their influence upon the public mind amid returning prosperity and swelling resources. The bank mania is rapidly increasing, Pennsylvania, New Jersey and Tennessee, are discussing loans similar to that of New York, in order to restrain and guide the disposition to create banks. In Pennsylvania there are applications before the Legislature for \$5,000,000 of new bank capital, but little of this will be granted, because the governor and democratic party are opposed to charters, without the individual liability clause, many bills that have passed have been returned on that ground. Should the stock system be introduced, a large demand for stock will be created. New Jersey has no stock of its own, and must take United States stock; Tennessee has a debt of some \$7,000,000, but it is so "placed" that it could not be readily available for banks. The same object is being pursued in other States, and a demand for, at least, \$100,000,000 of stocks will grow out of this system, which for good or for evil is spreading. It is obvious that when a State, like New York for instance, draws its own stock out of the market into the hands of the State Comptroller, as security for bank notes, it leaves room for United States stocks, and this has been one cause of the firmness of the stock market. We have said that the New York free banks have bought \$8,000,000 of New York stocks and issued an equal amount of paper to circulate as money. As long as that paper is convertible and equal to specie, its effect upon business is the same, swelling the volume of the circulating medium. The operation is, therefore, in its influence upon the money market temptingly the same, as if the stock had been sold abroad, and specie returned and poured into the channels of circulation. As this operation spreads, as well in New York as in other States, the usual symptoms of an enhanced circulation will be manifest in growing trade and rising prices, increased imports of goods, large government revenues, followed by an export of the precious metals. The increase of the paper money of the country has been accompanied by a large addition to the specie circulation, apparent in the report of the director of the mint on its operations.

GOLD AND SILVER DEPOSITES OF THE SEVERAL MINTS AND ANNUAL COINAGE.

DEPOSITES FOR COINAGE.				COINAGE.		
	Gold.	Silver.	Copper.	Silver.	Gold.	Total.
1845	\$3,724,106	1,873,486	38,948	1,873,200	3,756,447	5,658,595
1846	4,129,597	6,708,363	41,215	2,558,580	4,034,177	6,633,965
1847	\$20,619,544	2,450,059	61,827	2,374,450	20,221,385	22,657,662

The addition to the actual currency of the country has been, it appears, near \$23,000,000 of actual coin, of which \$7,739,506 was coined in New Orleans. This aggregate has suffered no diminution by reason of the exports that have taken place since November. About \$8,000,000 have been exported under the kiting operations of the London houses, to which we have alluded in the fore-

part of this article. These exports have been composed almost exclusively of English sovereigns, obtained from banks, because they alone were available abroad as money immediately on their arrival. The amount coined at the several mints has been as follows:

UNITED STATES COINAGE.

	1844.	1845.	1846.	1847.
Philadelphia	\$2,843,457	3,416,800	3,623,443	14,348,366
New Orleans	4,208,500	1,750,000	2,483,800	7,469,000
Dahlonega	488,600	501,795	449,727	371,485
Charlotte	147,210	-----	76,995	478,820
	<hr/> \$7,687,767	<hr/> 5,668,595	<hr/> 6,633,443	<hr/> 22,657,671

This large increase of the coined money of the country is an addition to its floating capital, and will be returned upon Europe as soon as the bank speculation shall have promoted a consumption of capital beyond production. Instead of remaining in circulation, it will be sent away for goods to be consumed on credit. The whole face of affairs promises a gradual expansion of the currency of the country, probably to be so far supported by the availability of its produce in the foreign market, as to prolong the inevitable revulsion to a period longer than is usually occupied by a commercial speculation.

THE PUBLISHING BUSINESS.

Ollendorff's New Method of Learning to Read, Write and Speak the German Language; to which is added a systematic outline of German Grammar, by G. S. ADLER, A. B., Professor of the German Language in the University of New York: 5th edition.

Ollendorff's New Method of Learning to Read, Write and Speak the French Language; with an appendix containing the cardinal and ordinal numbers and full paradigms of the regular and irregular, auxiliary, reflective and impersonal verbs, by J. L. JEWETT.

Morceaux Choisis des Auteurs Modernes, a l'usage de la Jeunesse: with a translation of the new and difficult words and idiomatic phrases which occur in the work, by F. M. ROWAN. Revised, corrected and enlarged by J. L. JEWETT.

Chefs-d'Œuvre Dramatiques de la Langue Francaise, mis en ordre progressif et annoté's, pour en faciliter l'intelligence, par A. G. COLLOT, Professeur de langues et de la littérature: published at New York by D. Appleton & Co., 200 Broadway; Philadelphia, G. S. Appleton, 148 Chesnut street.

The acquisition and use of a modern language with ease and facility are so requisite in the extended transactions of modern trade, that it falls within the proper province of a Commercial Review to notice the text book devoted to those objects. We hold that the best way of learning a language is to do it speedily. It may be necessary to gloat over a particle or weigh a quantity for hours in studying the classics which are cultivated for their style rather than their matter. But most assuredly the old method of learning a language, by cramming dry rules that overload the memory, tax the reason and, after all, give no facility and practical control over it with the tongue or the pen, had better be abandoned. The works of no modern grammarian have been so popular with the sect of utilitarians, as those of Ollendorff. His method is briefly thus: we are to speak in the language we are to learn, from the very first, the same words are to be repeated till we know them, then new ones are introduced. And thus by repetition the vocabulary is enlarged; then the sentences are so framed that the learner makes the acquaintance, and the familiar acquaintance, too, of all the families of idioms, every inflection and form of expression is repeated till well known, and then the difficulties are mastered. The language and its grammar have been learned, almost unconsciously, and much in the same way as a child learns to talk. The German Grammar contains 102 lessons and 246 exercises; the French 86 lessons and 249 exercises. Suppose a person who was acquainted with the pronunciation of these languages should take up either of these volumes; at the rate of one lesson a day and about three exercises, the book would be finished in less than four months. And this would have been accomplished without any of the weariness generally attendant on the study of language. The Messrs. Appleton in publishing these works, have conferred a great favor on those who desire to make themselves masters of French and German, and we hope they will appreciate the advantages to be gained from the very clear and natural method therein unfolded. The German Grammar, in addition to the original matter of Ollendorff, contains a capital synthetic view of the language, compiled from the works of Becker and Heyne by Professor Adler. The two French Readers are also very valuable to students of that language.

In the one, the modern French writers, Victor Hugo, Sue, Thiers, Lamartine and others are introduced, so that a familiarity is gained with the peculiar terms and the many new words of the rich harvest in the literature of France subsequent to the revolution and empire. The Second Reader is composed of the finest plays of the French stage, rather, however, intended to familiarize a student with their style, than in any respect to furnish more than a specimen of the unequalled fertility and genius of the French dramatic writers. All of the above books can be procured at J. B. Steel's, Camp street.

The Past, the Present and the Future, by H. C. CARY, author of "Principles of Political Economy." Philadelphia: Carey & Hart; New Orleans, J. B. Steel, 1848.

It is with no ordinary feelings that we have perused this work, so full of philanthropy and hope. What a pleasure even in the romance of a philosopher to imagine a community living in the practice of the beautiful doctrine of the author of Christianity, "to do to others as we would that they should do to us!" But when the theories of political economy are regarded to be false, just so far as they lead us to transgress the same divine precepts, when national success is shown to involve the practical but almost unseen operation of it, we are induced to treat the advocate of such views with more than the tolerance accorded to one who pleases, with the respect due to one who instructs. Mr. Carey's conclusions as to certain popular theories in political economy, have doubtless been influenced by the great discoveries of latter years in agricultural chemistry, that infant science which in its infancy guided by the great genius of such as Liebig and Muller, and the practical spirit of the age, promises such great things for the progress of civilization and the happiness of mankind. It is impossible in a notice like the present, to do more than express the warmth of our emotion, to attempt within such narrow limits to give a summary of the volume, would be ridiculous; but we hope to give, in an early number, a review of the leading doctrines of this book. This we can safely say, that it sustains the high reputation of its author as an accurate and original thinker and most amiable and benevolent man.

Edinburgh Review, October 1847, Blackwood's Magazine, November, and the North British Review, November. 1847. New York: Leonard Scott, 79 Fulton street.

These valuable periodicals are justly entitled even in this age of reading to more than a mere cursory glance. For it is not alone the great amount of diversified knowledge that they contain which gives them a value; but they present as with the very form the present times, the feelings and the anticipations of the best thinkers of the day. The amount of labor and research bestowed on the articles of the two reviews is extraordinary, and Blackwood bearing his strong torism and rampant anti-Americanism is as fresh as in his joyous youth.

Essays on the Improvement of Public Waters in the city of New Orleans.—The authors of this pamphlet, Messrs. MAURAS and PORRE have favored us with copies in French and English. We have marked some passages for insertion in the Review and discovered interesting matter upon every page. We hope to Review the subject in our next number.

Southern Literary Messenger, January, 1848. Richmond, Va.—The fine fancy and heartfulness of Southern literature are distinctly marked in the messenger. It is a matter of high congratulation that if the minds of Southerners have been more distinguished for the spontaneous efforts of eloquence in the legislative halls of the nation, than by the slow and closeted labors of the pen, at all events whatever has been done has shown a love of art and beauty for its own sake and a worship of truth and poetry as their own "exceeding great reward." One touching poem to the memory of Richard Henry Wilde is conceived in a spirit of proper respect to the honored dead. The proceedings of the Virginia Historical Society under its new organization and an address by the Hon. W. C. Rives, encourage the hope that such societies will as they ought flourish in a land hallowed by memories of our Revolution.

A System of English Versification; illustrated by numerous examples from the best poets, by ERASTUS EVERETT, A. M. New York: Appleton & Co., 1848.

This work claims a Louisiana paternity and being of the classic order may almost be regarded among the first fruits of the state. It is gratifying to welcome such exertions of our citizens and to indulge the hope that they will hereafter be more frequent. Surely literature is to have a place among us in reality, when an university shall rear its head in New Orleans. We regret our inability to do more than give a meagre notice of Mr. Everett's interesting work.

Life of General William Hull, by his Daughter Mrs. Campbell. New York: Appleton & Co., 1848. New Orleans: J. B. Steel.

"Strike but hear me," is an exclamation which the author of these memoirs may be supposed to have had in memory. Let us at least be governed by the gentler alternative when a daughter in filial affection, defends the name and reputation of her father. Whatever our sentiments we cannot but feel something of the admiration elicited by that Roman woman, who we are told nourished from her own bosom the sire that power had decreed to die. Let it be so, and as General Hull was not unknown to fame in the times that tried men's souls," so let an ear be lent to her who professes nothing to extenuate, nor set down aught in malice, as she would not in this pious task.

EDITOR'S NOTE.—We have on hand several valuable papers which shall appear in due season, acknowledgments are made to Senators Calhoun, Johnson and Downes; and Morse and La Sere of the House for valuable public documents; also, to Professor Bache of the Coast Survey.